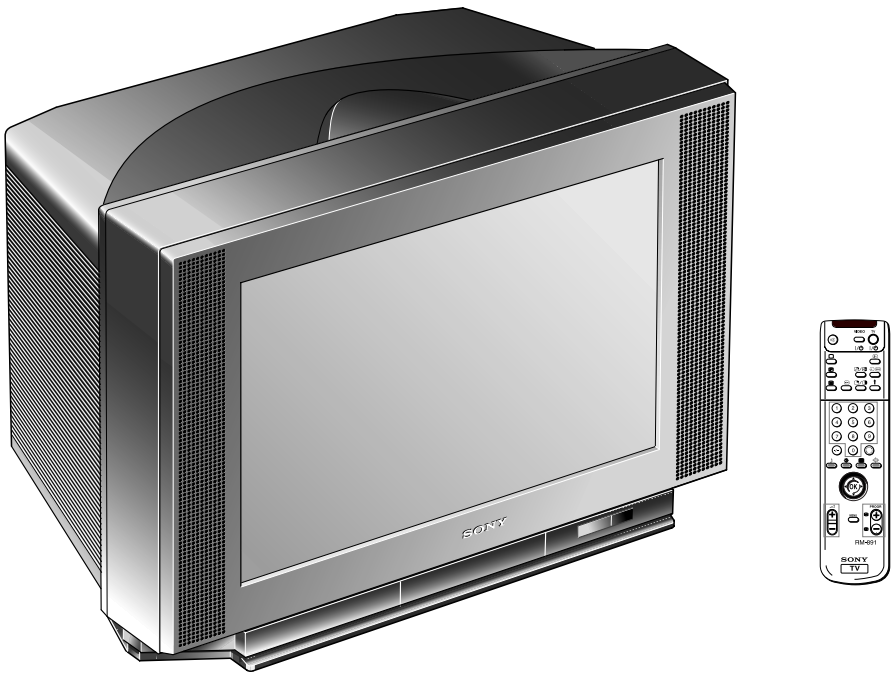
Self Diagnosis Supported model

SERVICE MANUAL

FE-1A CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.
KV-25FX20A	RM-887	Italian	SCC-Q32B-A
KV-25FX20B	RM-887	French	SCC-Q33B-A
KV-25FX20D	RM-887	AEP	SCC-Q31B-A
KV-25FX20E	RM-887	Spanish	SCC-Q34B-A
KV-25FX20K	RM-887	OIRT	SCC-Q36C-A
KV-25FX20R	RM-887	OIRT	SCC-Q36D-A

MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29FX20A	RM-887	Italian	SCC-Q32A-A
KV-29FX20B	RM-887	French	SCC-Q33A-A
KV-29FX20D	RM-887	AEP	SCC-Q31A-A
KV-29FX201D	RM-887	AEP	SCC-Q31E-A
KV-29FX20E	RM-887	Spanish	SCC-Q34A-A
KV-29FX201E	RM-887	ESP	SCC-Q34E-A
KV-29FX20K	RM-887	OIRT	SCC-Q36B-A
KV-29FX20R	RM-887	OIRT	SCC-Q36A-A
KV-29FX20U	RM-887	UK	SCC-Q35A-A



TRINITRON® COLOR TV

SONY®

MICROFILM

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K, L, I	GERMAN/NICAM Stereo	L VHF : F02-F10 UHF : F21-F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H	GERMAN Stereo	PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	KV-25FX20K/29FX20K GERMAN/NICAM Stereo KV-25FX20R/29FX20R GERMAN Stereo	B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	25FX20A	25FX20B	25FX20D	25FX20E	25FX20K	25FX20R
Power Consumption	100W	100W	100W	100W	100W	100W

MODEL	29FX20A	29FX20B	29FX20D	29FX20E	29FX20K	29FX20R	29FX20U
Power Consumption	120W	120W	120W	120W	120W	120W	150W

[PICTURE TUBE]

KV-25FX20 — FD Trinitron
Approx. 63cm (25 inches)
(Approx. 59cm picture measured diagonally)
110 degree deflection

KV-29FX20 — FD Trinitron
Approx. 72cm (29 inches)
(Approx. 68cm picture measured diagonally)
110 degree deflection

Input/Output Terminals

[REAR]

1/ 21-pin Euro connector (CENELEC standard).
- Inputs for Audio and Video signals.
- Inputs for RGB.
- Outputs of TV Video and Audio signals.

2/S 21-pin Euro connector.
- inputs for Audio and Video signals.
- inputs for S Video.
- outputs for Audio and Video signals (selectable).

Phono Jack
- Outputs for Audio Signals

[FRONT]

3 Video input - phono jack

3 Audio inputs - phono jacks

3 S Video input - 4 pin din

Headphone jacks : stereo minijack

Sound output	2 x 14W (Music Power)
Subwoofer	30W (Music Power)
Power requirements	220 - 240V
Dimensions	
KV-25FX20	Approx 655x509x476mm (w/h/d)
KV-29FX20	Approx 746x569x516mm (w/h/d)
Weight	
KV-25FX20	Approx 37kg
KV-29FX20	Approx 47.5kg
Supplied accessories	RM-887 Remote Commander (1) IEC designated R6 battery (2)
Other features	NICAM*****, FASTEXT, TOPTEXT *****(KV-25FX20B/25FX20E/25FX20K/ KV-29FX20B/29FX20E/29FX20K/ KV-29FX20U only)

[RM-887]

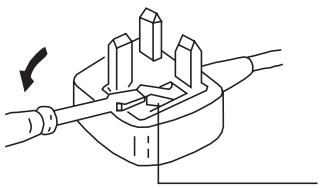
Remote control system	Infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimensions	Approx 44x209x23mm (w/h/d)
Weight	Approx 89g (Not including battery)

Design and specifications are subject to change without notice.

Model Name / Item	KV-25FX20A KV-29FX20A	KV-25FX20B KV-29FX20B	KV-25FX20D KV-29FX20D	KV-25FX20E KV-29FX20E	KV-25FX20K KV-29FX20K	KV-25FX20R KV-29FX20R	KV-29FX20U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	OFF	ON	ON	ON	OFF	OFF	OFF
Woofer Box	ON	ON	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	ON	OFF	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON	OFF	ON
Language Preset	Italian	French	German	Spanish	OIRT	OIRT	English

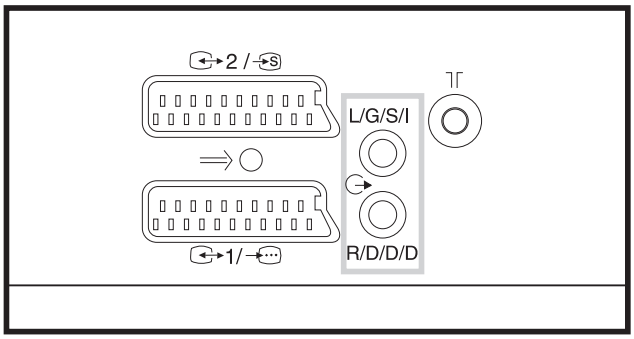
WARNING (KV-29FX20U only)

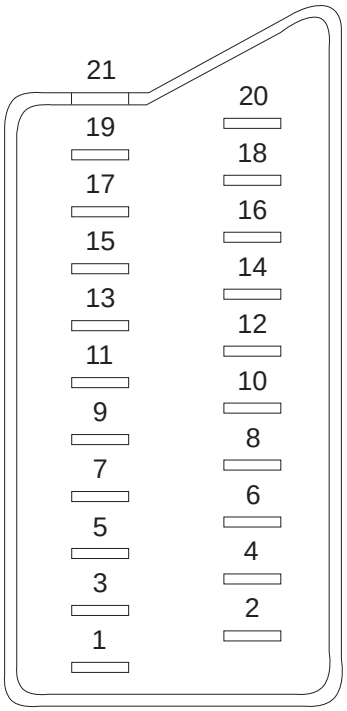
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE OUTLET SOCKET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

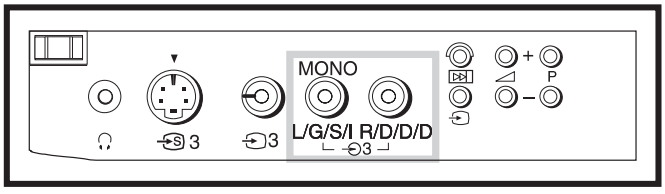
21 pin connector (1/ , 2 / S)





Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	–	–	Red input	0.7 +/- 3dB, 75 ohms, positive
	–	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	–	–	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	–	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz



Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75 ohm, positive Sync.

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

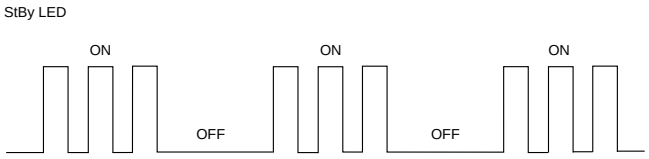
FE-1A SELF DIAGNOSTIC SOFTWARE

The identification of errors within the FE-1A chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See Table 1., non fatal errors are reported using this method.
Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

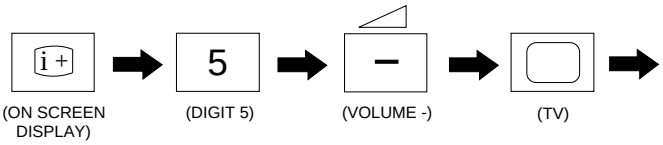
ERROR	LED ERROR COUNT
No error	00
Not allowed (may be confused with Sircs response flash!)	01
Protection circuit trip < ANY TIME >	02
Reserved	03
No vertical sync	04
AKB	05
IIC bus clock and/or data lines low at Power ON	06
NVM no IIC bus acknowledge at Power ON	07
Jungle controller no IIC acknowledge at Power ON	08
Tuner no acknowledge at Power ON	09
Sound processor no acknowledge at Power ON	10

Flash Timing Example : e.g. error number 3



How to enter into Table 2

1. Turn on the main power switch of the TV set and enter into the 'Standby Mode'.
2. Press the following sequence of buttons on the Remote Commander.



3. The following table will be displayed indicating the error count.

Table 2

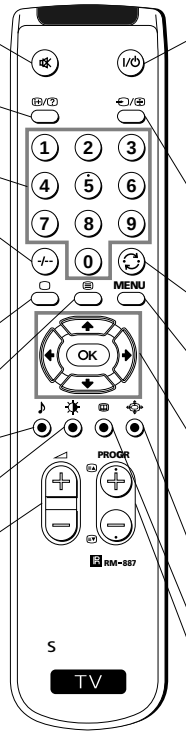
Error	Times
2	-
3	-
4	-
5	-
6	-
7	-
8	-
9	-
10	-

Note: To clear the error count data press '80' on the Remote commander.

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Overview of Remote Control Buttons



Muting the Sound
Press to mute TV sound.
Press again to restore the sound.

Displaying On Screen Information
Press to display all on-screen indications.
Press again to cancel.

Selecting channels
Press to select channels.

For double-digit programme numbers, e.g. 23, press -/-- first, then the buttons 2 and 3.
If you enter an incorrect first digit, this should be corrected by entering another digit (0-9) and then selecting -/-- button again to enter the programme number of your choice.

Selecting TV mode
Press to switch off Teletext or video input.

Selecting Teletext
Press to switch on Teletext.

Selecting Sound mode
Press to change the sound mode.

Selecting Picture mode
Press to change the picture mode.

Adjusting TV Volume
Press to adjust the volume of the TV.

To Temporarily Switch Off TV
Press to temporarily switch off TV (the standby indicator ⏻ on TV lights up). Press again to switch on TV from standby mode.
To save energy we recommend switching off completely when TV is not in use.

⚠ After 15-30 minutes without a TV signal and without any button being pressed, the TV switches automatically into standby mode.

Selecting Input source
Press repeatedly until the desired input symbol of the source appears on the TV screen.

Back to the channel last watched
Press to watch the last channel selected (watched for at least 5 seconds).

Displaying the menu system
Press to display the menu on the TV screen. Press again to remove the menu display from the TV screen.

Menu selection
▲ SONYcroll Up
▼ SONYcroll Down
◀ Previous menu or selection
▶ Next menu or selection
OK Confirms your selection

Selecting Screen format
Press to view programmes in 16:9 mode. Press again to return to 4:3 mode.

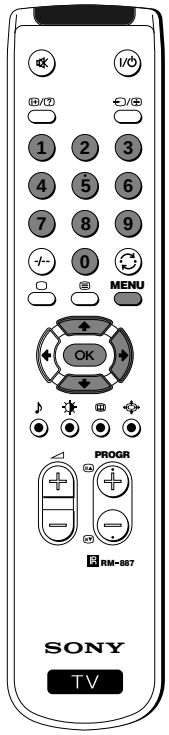
This button only works in Teletext mode.

Selecting channels
Press to select the next or previous channel.

ⓘ Besides TV functions, all coloured buttons are also used for Teletext operation. For more details, please refer to the "Teletext" section of this instruction manual.

Manually Tuning the TV

ⓘ Use this function to preset channels or a video input source one by one to the programme order of your choice.



1 Press the **MENU** button on the remote control to display the menu on the TV screen.

2 Press the ▼ button to select the 🧰 symbol, then press the ▶ button to enter to the **SET UP** menu.

3 Press the ▼ button to select **MANUAL PROGRAMME**, then press the ▶ button.

4 With the cursor highlighting **PROGRAMME**, press the ▶ button and then, press the ▼ or ▲ button to select on which programme number you want to preset a channel. Press the **OK** button.

5 Press the ▼ button to select **CHANNEL**, then press the ▶ button. Press ▼ or ▲ button to select the channel tuning, "C" for terrestrial channels or "S" for cable channels. Press the ▶ button.

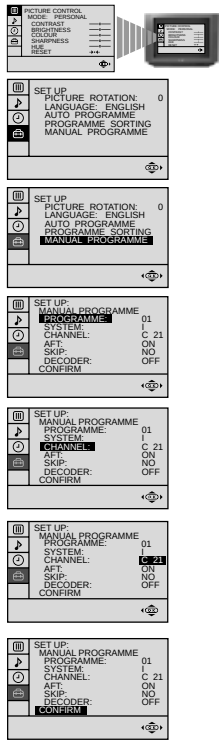
6 Press the number buttons to enter the channel number of the TV Broadcast or press the ▲ or ▼ button to search for the next available channel.
If you do not wish to store this channel, press the ▲ or ▼ button to continue searching for the desired channel.

7 If this is the desired channel you wish to store, press the **OK** button and then, with the cursor highlighting **CONFIRM**, press the **OK** button again.

8 Repeat steps 4 to 7 if you wish to store more channels.

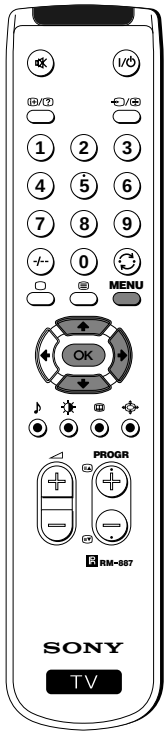
9 Press the **MENU** button to exit and return to the normal TV screen.

Your TV is now ready for use.

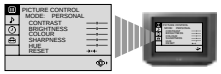


Fine Tuning Channels

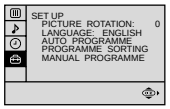
Normally, the automatic fine tuning (AFT) function is operating. If the picture is distorted, however, you can manually fine tune the TV to obtain a better picture reception.



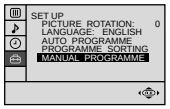
1 Select the channel (TV Broadcast) you wish to fine tune, then press the **MENU** button on the remote control to display the menu on the TV screen.



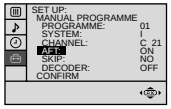
2 Press the ▼ button to select the 🧰 symbol, then press the ▶ button to enter to the **SET UP** menu.



3 Press the ▼ button to select **MANUAL PROGRAMME**, then press the ▶ button.

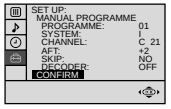


4 Press the ▼ button to select **AFT**, then press the ▶ button.



5 Press the ▼ or ▲ button to adjust the fine tuning (-15 to +15), then press the **OK** button.

6 With the cursor highlighting **CONFIRM**, press the **OK** button to store.



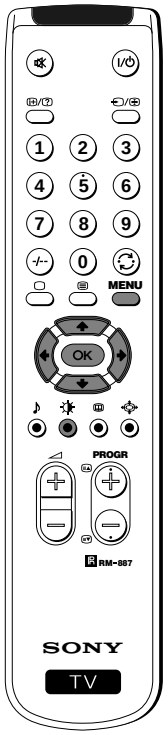
7 Press the **MENU** button to exit and return to the normal TV screen.

8 Repeat steps 1 to 7 to fine tune other channels.

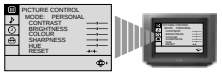
Your TV is now ready for use.

Adjusting the Picture

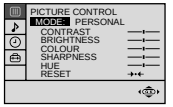
Although the picture is adjusted at the factory, you can modify it to suit your own taste.



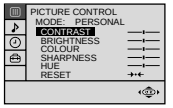
1 Press the **MENU** button on the remote control to display the menu on the TV screen.



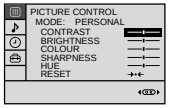
2 Press the ▶ button to enter to the **PICTURE CONTROL** menu.



3 Press the ▼ or ▲ button to select the item you wish to change.



4 With the cursor highlighting the item you wish to change, press the ▶ button.
(Refer to the table below for the effect of each control).



PICTURE CONTROL	OPERATION / EFFECT
MODE	▼ PERSONAL (for individual settings) ▼ LIVE (for live broadcast programmes) ▼ MOVIE (for films)
CONTRAST	Less ◀ ▶ More
BRIGHTNESS*	Darker ◀ ▶ Brighter
COLOUR*	Less ◀ ▶ More
SHARPNESS*	Softer ◀ ▶ Sharper
HUE**	Greenish ◀ ▶ Reddish
RESET	OK Resets picture to the factory preset levels.

* Can be only altered if PERSONAL MODE is selected.
** Only avalaible for NTSC colour signal (e.g: US video tapes).

5 Press the ▼/▲ or ◀/▶ button to alter the selected item, then press the **OK** button to store the new adjustment.

6 Repeat steps 3 to 5 to alter the other items.

7 Press the **MENU** button to exit and return to the normal TV screen.

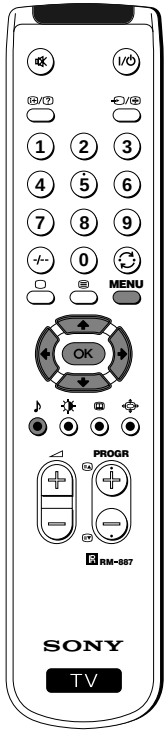
Changing Picture Mode Quickly

1 Press the ☼ button on the remote control to directly access the **PICTURE MODE**.

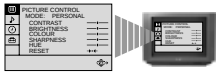
2 Press the ▼ button to select your desired picture mode (**PERSONAL**, **LIVE** or **MOVIE**), then press the **OK** button.

Adjusting the Sound

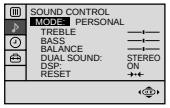
Although the sound is adjusted at the factory, you can modify it to suit your own taste.



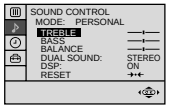
1 Press the **MENU** button on the remote control to display the menu on the TV screen.



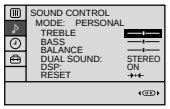
2 Press the ▼ button to select the ♪ symbol, then press the ▶ button to enter to the **SOUND CONTROL** menu.



3 Press the ▼ or ▲ button to select the item you wish to change.



4 With the cursor highlighting the item you wish to change, press the ▶ button.
(Refer to the table below for the effect of each control).



SOUND CONTROL	OPERATION / EFFECT
MODE	▼ PERSONAL (for individual settings) ▼ JAZZ ▼ POP ▼ ROCK
TREBLE*	Less ◀ ▶ More
BASS*	Less ◀ ▶ More
BALANCE	Left ◀ ▶ Right
DUAL SOUND	• *For a stereo broadcast:* ▼ MONO ▲ STEREO • *For a bilingual broadcast:* ▼ A for channel 1 ▲ B for channel 2
DSP (Digital sound Processor)	ON ◀ ▶ OFF
RESET	OK Resets sound to the factory preset levels.

* Can be only altered if PERSONAL MODE is selected.

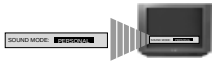
5 Press the ▼/▲ or ◀/▶ button to alter the selected item, then press the **OK** button to store the new adjustment.

6 Repeat steps 3 to 5 to alter the other items.

7 Press the **MENU** button to exit and return to the normal TV screen.

Changing Sound Mode Quickly

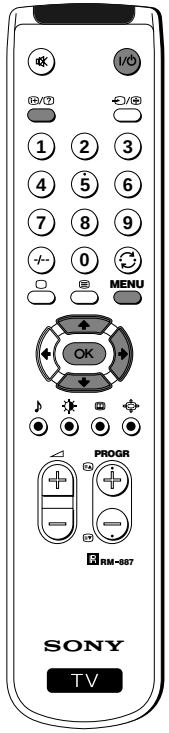
1 Press the ♪ button on the remote control to access directly to the **SOUND MODE**.



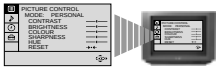
2 Press the ▼ button to select your desired sound mode (**PERSONAL**, **JAZZ**, **POP** or **ROCK**), then press the **OK** button.

Using the Sleep Timer

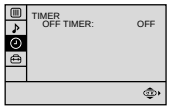
You can select a time period for the TV to switch itself automatically into the standby mode.



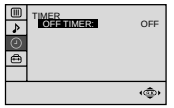
1 Press the **MENU** button on the remote control to display the menu on the TV screen.



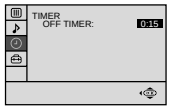
2 Press the ▼ button to select the ⏲ symbol, then press the ▶ button to enter to the **TIMER** menu.



3 With the cursor highlighting **OFF TIMER**, press the ▶ button.



4 Press the ▼ or ▲ button to set the time period delay
▲ OFF
0:15 min.
0:30 min.
...
...
▼ 4:00 hours



5 Press the **OK** button.

6 Press the **MENU** button to exit and return to the normal TV screen.

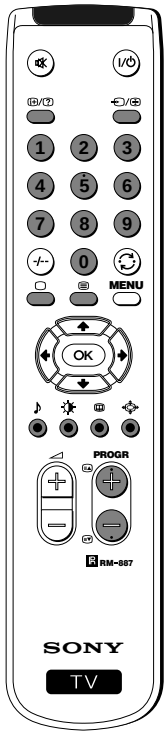
One minute before the TV switches into standby mode, the time remaining is displayed on the TV screen automatically.

Notes:
- When watching the TV, press the ⏲ button to display the time remaining.
- To return to normal operation from standby mode, press the I/⏻ button.

Viewing Teletext

Teletext is an information service transmitted by most TV stations.

Make sure to use a TV channel with a strong signal, otherwise teletext errors may occur.



Selecting Teletext

1 Select the TV channel which carries the teletext service you wish to view.

2 Press the ☰ button on the remote control to switch on the teletext.

3 Input three digits for the page number, using the numbered buttons on the remote control. (if you have made a mistake, type in any three digits and then, re-enter the correct page number).

4 Press the ▭ button to switch off teletext.

Using other Teletext functions

TO	PRESS THE BUTTON
Access the next or preceding page	for next page or for the preceding page
Superimpose teletext on to the TV	☰ Press ☰ again to cancel teletext mode.
Freeze a teletext page	⊕ Press ⊕ again to cancel the freeze.
Reveal concealed information (e.g: answer to a quiz)	? Press ? again to cancel.

Using Fastext

Fastext lets you access pages with one button stroke.

When Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the colour button (red, green, yellow or blue) on the remote control to access the corresponding page.

Using Optional Equipment

You can connect optional audio or video equipment to your TV, such as a VCR, a camcorder or a video game as shown below.

Select and View the Input Signal

1 Connect your equipment to the designated TV socket.

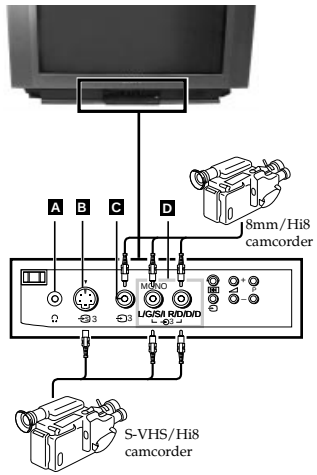
2 Press the ⇥ button repeatedly on your remote control until the correct input symbol appears on the TV screen.

Symbol	Input signals
⇥1	• Audio/video input signal through the Euro AV connector **F**
⇥···	• RGB input signal through the Euro AV connector **F**
⇥2	• Audio/video input signal through the Euro AV connector **E**
⇥S2	• S video input signal through the Euro AV connector **E**
⇥3	• Video input signal through the phono socket **C** and Audio input signal through **D**
⇥S3	• S video input signal through the socket **B** and Audio input signal through **D**.

3 Switch on the connected equipment.

4 To return to normal TV picture, press the ▭ button on the remote control.

Note: To avoid picture distortion, do not connect equipment to the **B** and **E** connectors at the same time.



Additional Information

Connecting a VCR

Plug in VCR to the socket **F** on the rear of the TV set.
We recommend you tune in the VCR signal to TV programme number '0' using the section "Manually Tuning the TV" of this instruction manual.

Connecting Headphones

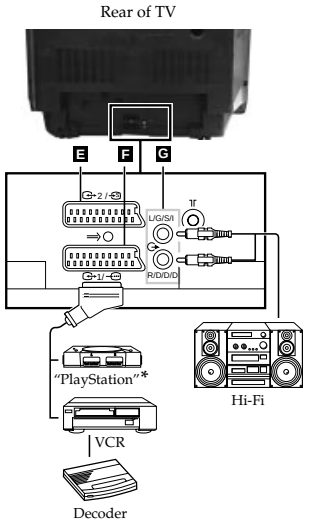
Plug in your headphones to the socket **A** on the front of the TV set.

Connecting Decoders

Plug in decoders to the socket **F** on the rear of the TV.

Connecting to External Audio Equipment

Plug in your Hi-Fi equipment to the **G** sockets on the rear of the TV if you wish to amplify the audio output from the TV.



* "PlayStation" is a product of Sony Computer Entertainment, Inc.

* "PlayStation" is a trademark of Sony Computer Entertainment, Inc.

Troubleshooting

Here are some simple solutions to the problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	• Plug the TV in. • Press the ⏻ button on the front of TV. • If the ⏻ indicator is on, press I/⏻ button or a programme number button on the remote control. • Check the aerial connection. • Check that the selected video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using the ⏻ button on the front of the TV.
Poor or no picture (screen is dark), but good sound	• Using the MENU system, select the Picture Adjustment display. Adjust the brightness, picture and colour balance levels. • From the Picture Adjustment display select RESET to return to the factory settings.
Poor picture quality when watching a RGB video source.	• Press the ⮌ button repeatedly on the remote control until the RGB symbol ⊸▭ is displayed on the screen.
Good picture, no sound	• Press the ◿ +/– button on the remote control. • If 🔇 is displayed on the screen, press the 🔇 button on the remote control.
No colour on colour programmes	• Using the MENU system, select the Picture Adjustment display. Adjust the colour balance. • From the Picture Adjustment display select RESET to return to the factory settings.
Distorted picture when changing programmes or selecting teletext	• Turn off any equipment connected to the 21 pin Euro connector on the rear of the TV.
Noisy picture when viewing TV channel	• Adjust Fine Tuning to obtain better picture reception.
Remote control does not function	• Replace the batteries.
The standby indicator ⏻ on the TV flashes.	• Contact to your nearest Sony service centre.

⚠
- **If you continue to have these problems, have your TV serviced by qualified personnel.**
- **NEVER open the casing yourself.**

Specifications

TV system
I

Colour system
PAL
NTSC 3.58, 4.43 (only Video In)

Channel coverage
UHF: B21-B69

Picture tube
Flat Display Trinitron
Approx. 72 cm (29 inches) (Approx. 68 cm picture measured diagonally), 104° deflection

Rear Terminals
- ⮌1/⊸▭ 21-pin Euro connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output
- ⮌2/⊸Ⓢ 21-pin Euro connector (CENELEC standard) including audio/video input, S-video input, monitor audio/video output
- ⮌ Audio outputs - phono jacks

Front Terminals
- ⮌3 video input - phono jack
- ⮌3 audio inputs - phono jacks
- ⊸Ⓢ3 S video input - 4 pin DIN
- 🎧 Headphones jack - minijack stereo

Sound output
2x7 W + 1x15 W (RMS)

Power consumption
150 W
Standby Power consumption
0.5 W

Dimensions (w x h x d)
Approx. 746 x 569 x 516 mm

Weight
Approx. 47.5 kg

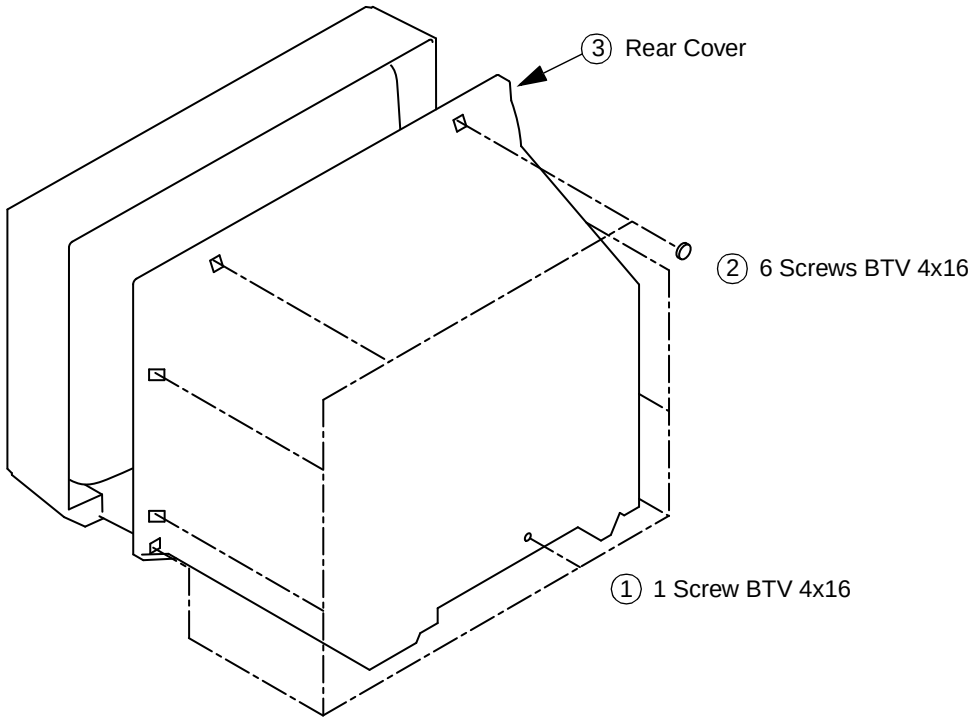
Accessories supplied
1 Remote Control (RM-887)
2 Batteries (IEC designated)

Other features
TELETEXT, Fastext, TOPtext
NICAM Stereo
Sleep Timer
Smartlink

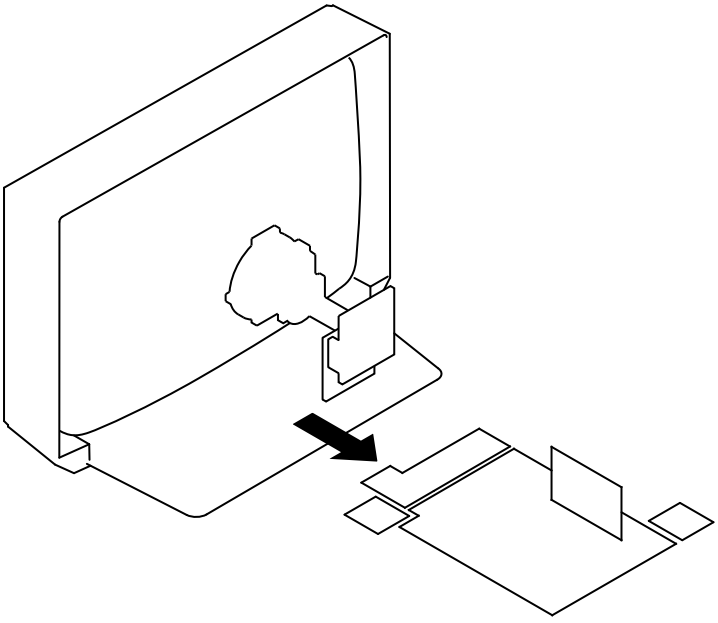
Design and specifications are subject to change without notice.

SECTION 2
DISASSEMBLY

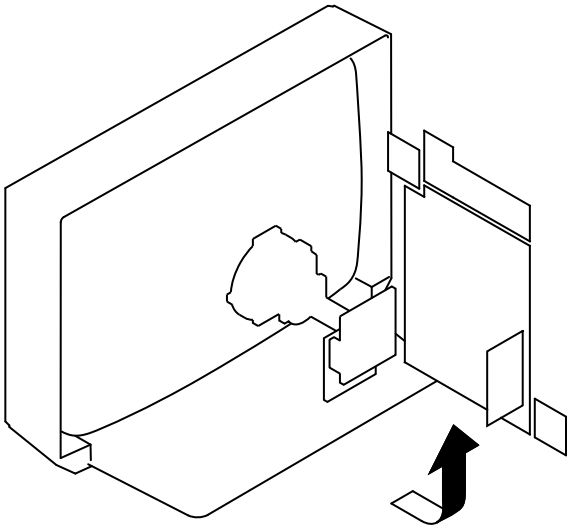
2-1. REAR COVER REMOVAL



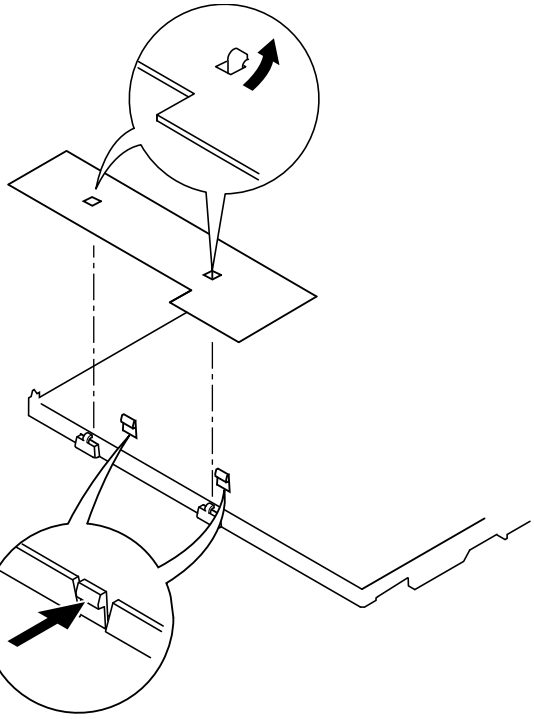
2-2. CHASSIS ASSY REMOVAL



2-3. SERVICE POSITION



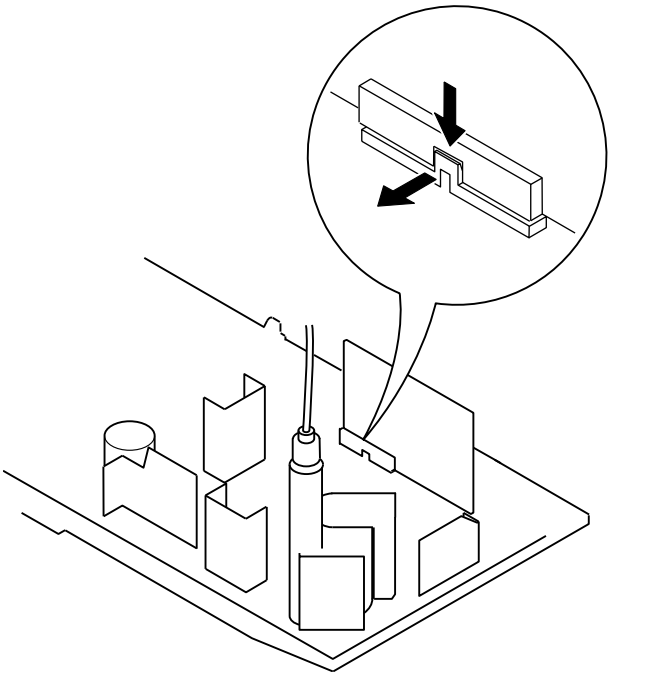
2-4. H BOARD REMOVAL

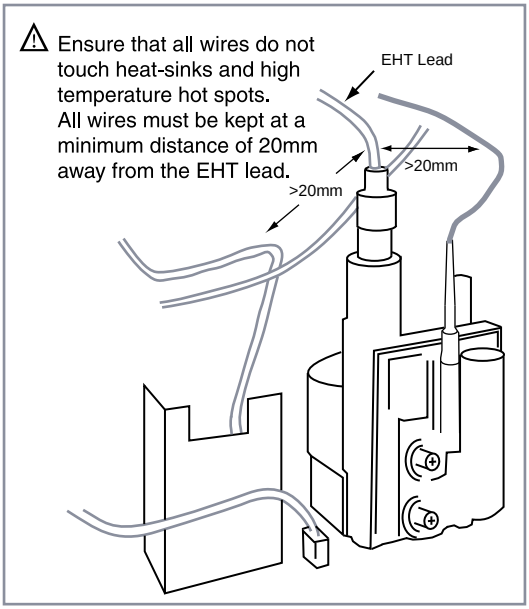


To release, push the claws in the direction of the arrow as indicated.

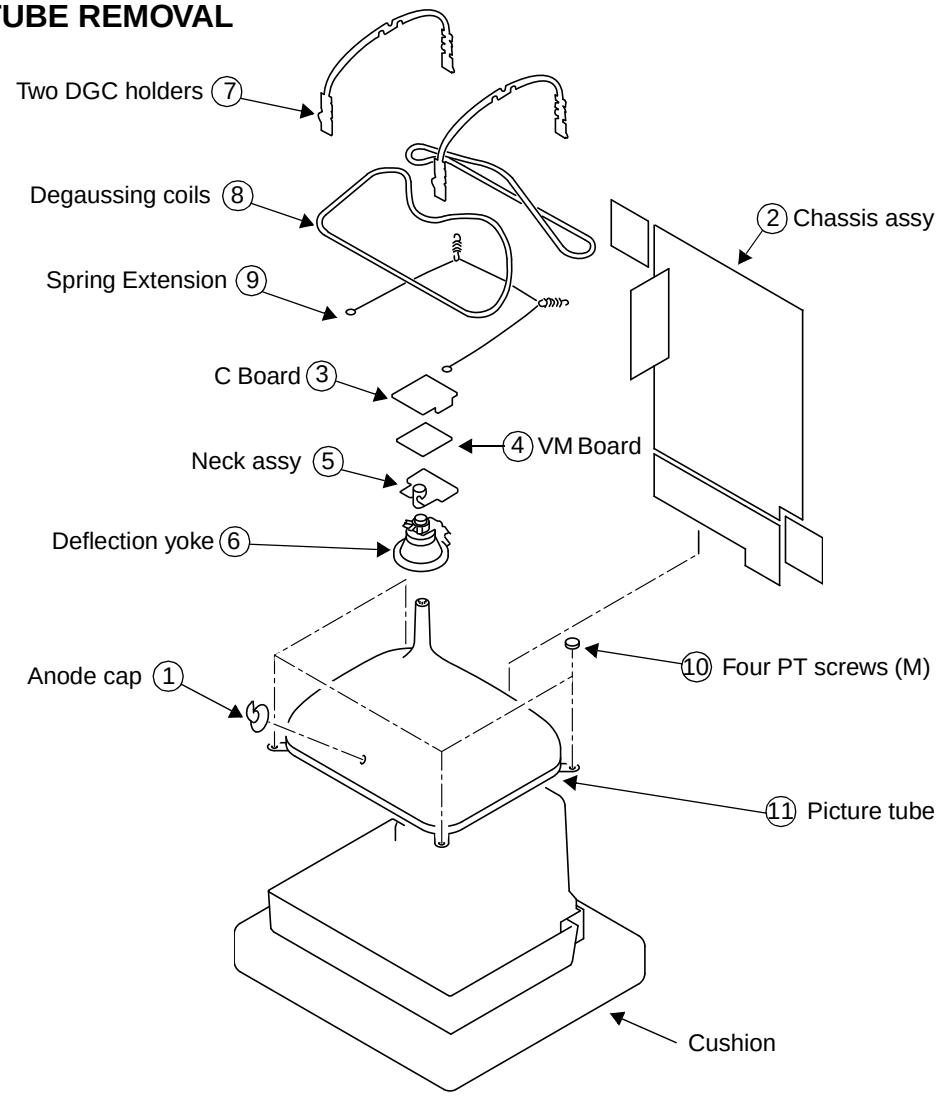
2-5. S1 BOARD REMOVAL

Release the clip indicated




Ensure that all wires do not touch heat-sinks and high temperature hot spots.
All wires must be kept at a minimum distance of 20mm away from the EHT lead.
EHT Lead
>20mm
>20mm

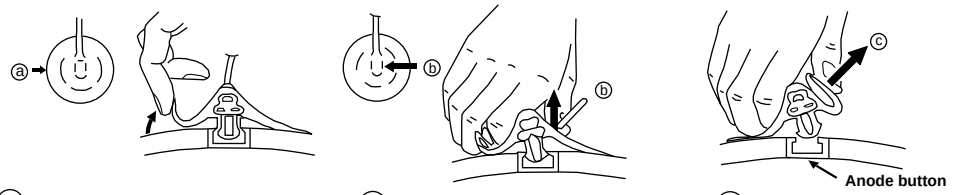
2-6. PICTURE TUBE REMOVAL



- **REMOVAL OF ANODE-CAP**

Note : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

*** REMOVING PROCEDURES.**



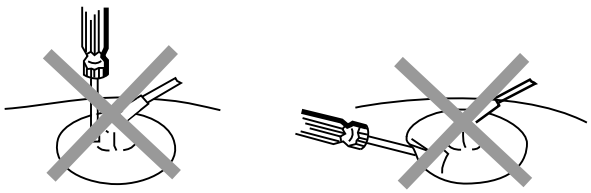
① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

- **HOW TO HANDLE THE ANODE-CAP**

① To prevent damaging the surface of the anode-cap do not use sharp materials.
② Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
③ A metal fitting called a shatter hook terminal is fitted inside the rubber cap. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.

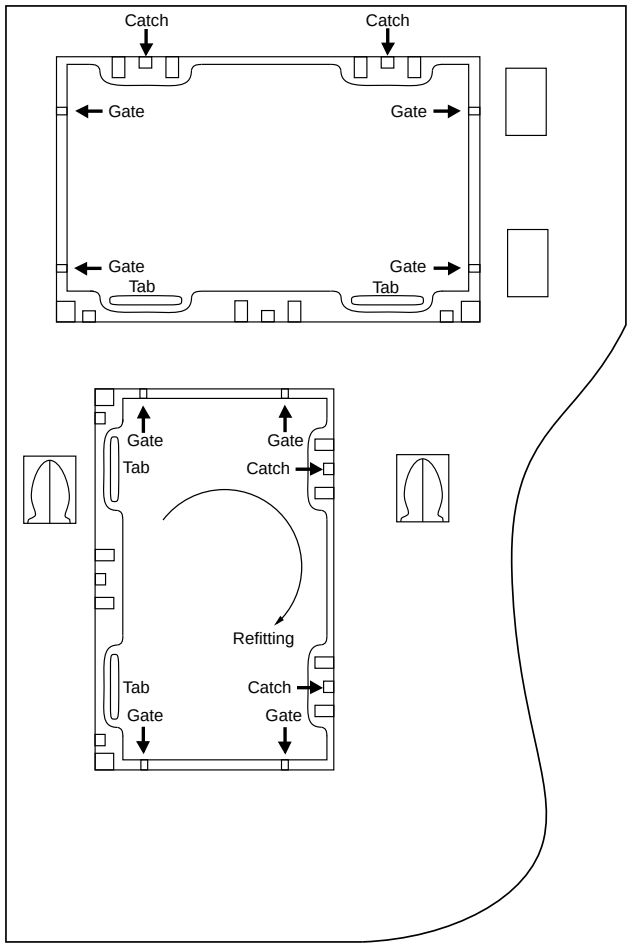


REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the A Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.
This is performed by cutting the gates with a sharp wire cutter at the locations shown and indicated by arrows.

Note : There are 2 plates fitted to the main bracket and secured by 4 gates.
Only remove the necessary plate to gain access to the printed wiring board.

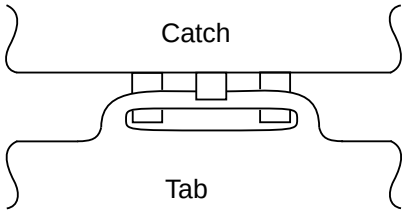


⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from the cut position to allow the tabs to be fitted in the catch positions.



SECTION 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... 80% [or remote control normal]

Brightness 50%

Carry out the following adjustments in this order :

3-1. Beam Landing
3-2. Convergence
3-3. Focus
3-4. White Balance

Note : Test equipment required

1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.
5. DC Power supply.

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input an all white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to Red.
3. Move the deflection yoke forward and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yoke forward and adjust so that the entire screen becomes Red. [See Fig.3-1]
5. Switch the raster signal to Blue, then to Green and verify the condition.
6. When the position of the deflection yoke has been determined, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to correct it. [See Fig.3-4]

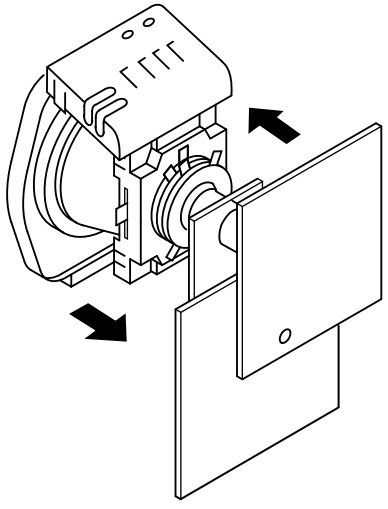


Fig. 3-1

Fig. 3-2

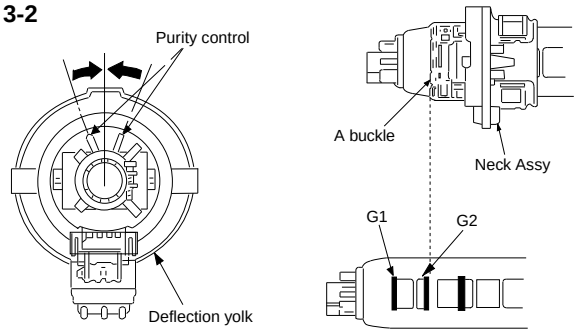
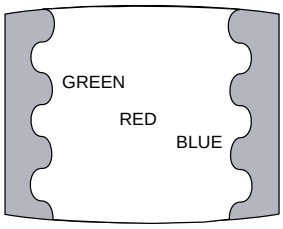


Fig. 3-3



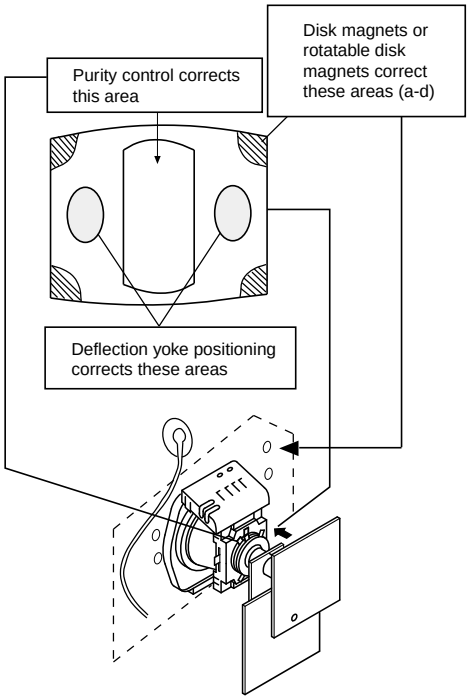

Disk magnets or rotatable disk magnets correct these areas (a-d)
Purity control corrects this area
Deflection yoke positioning corrects these areas

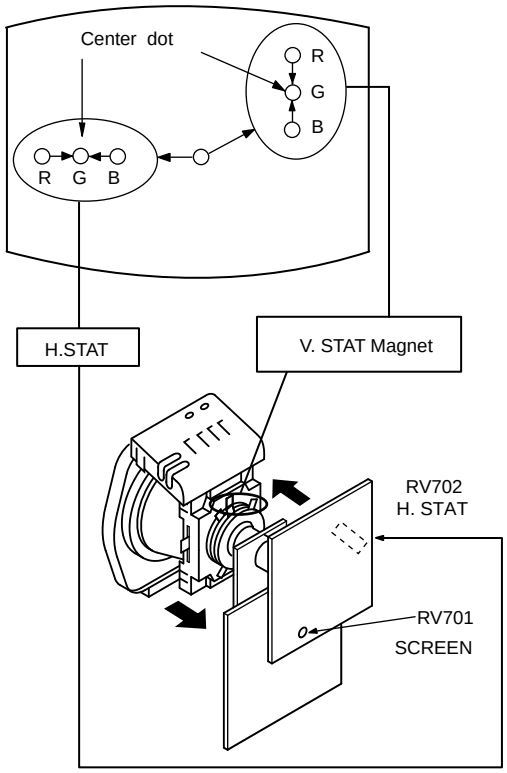
Fig. 3-4

3-2. CONVERGENCE

Preparation:

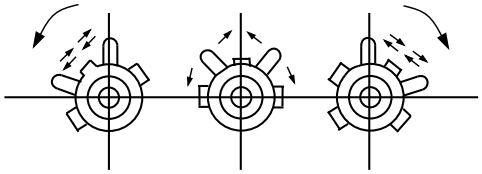
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

(1) Horizontal and vertical static convergence

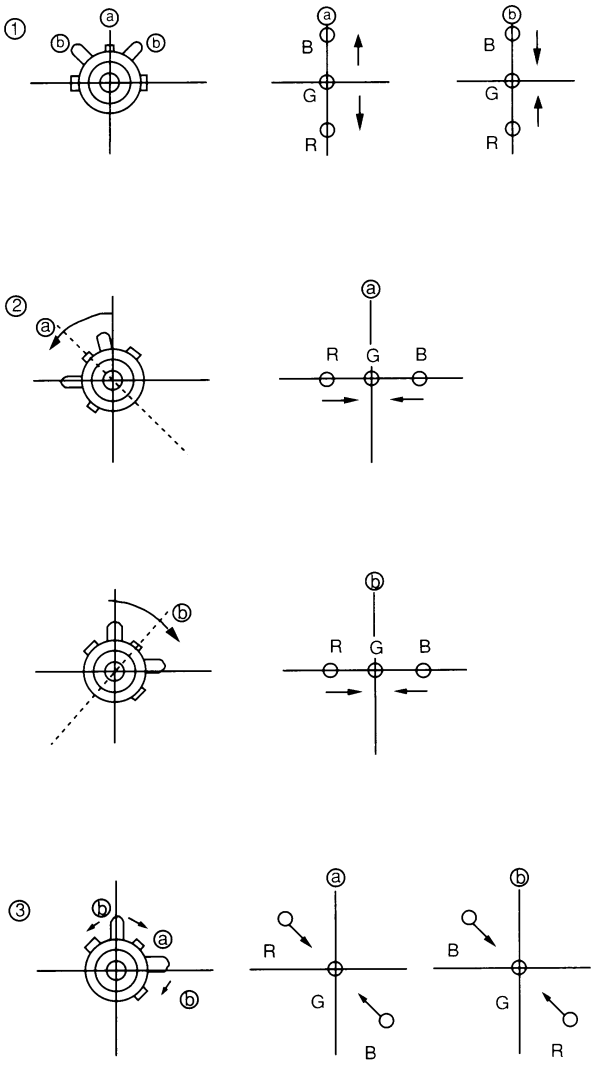


1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below. [In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

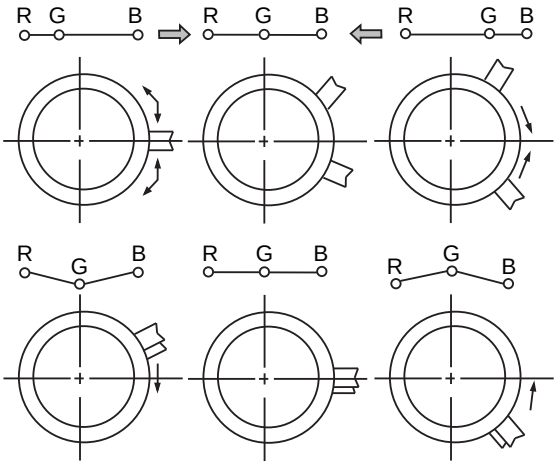
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



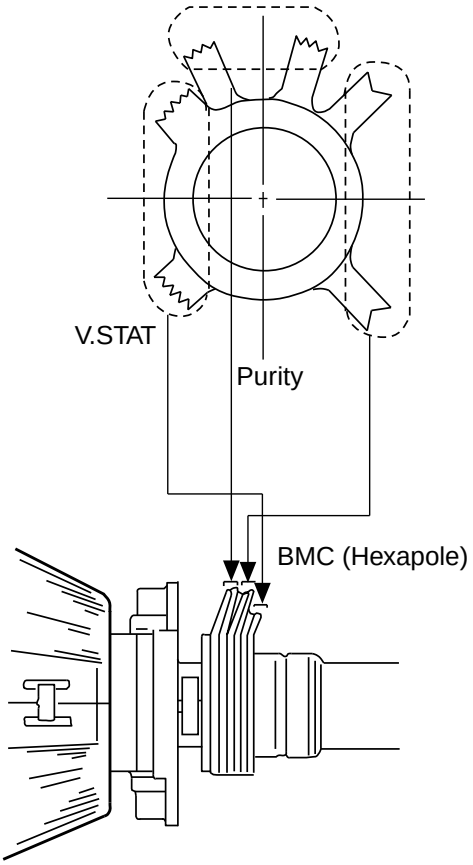
4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.



- **Operation of the BMC (Hexapole) magnet.**



- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment whilst tracking.
  Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen
  (by moving the dots in the horizontal direction).



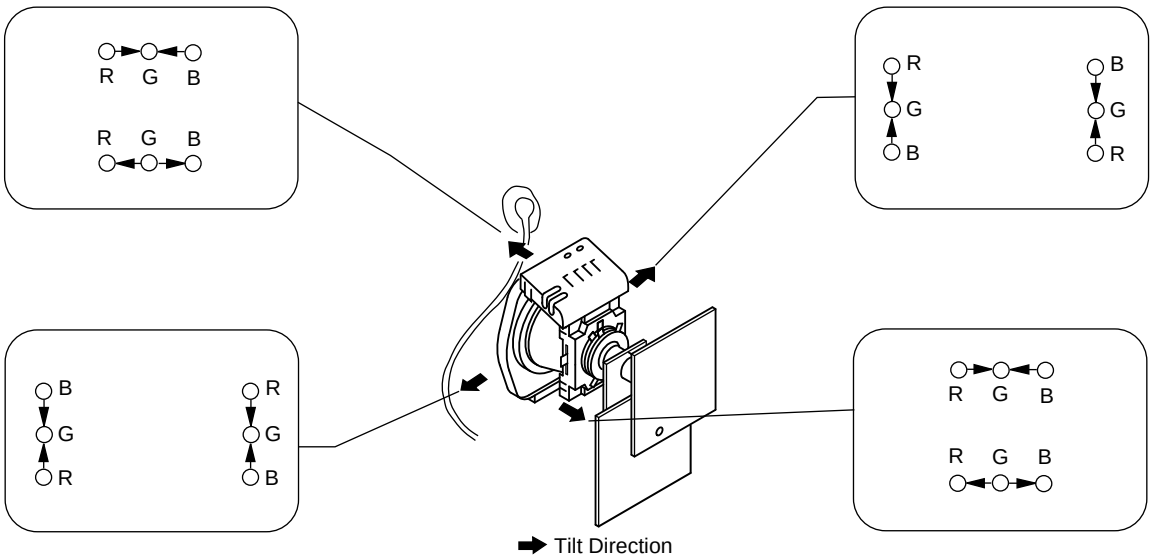
(2) Dynamic convergence adjustment.

Preparation:

- Before starting this adjustment, adjust the horizontal and vertical static convergence.

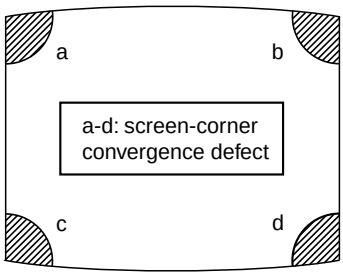
1. Remove the deflection yoke spacer.
2. Tilt the deflection yoke as indicated in the figure below and optimize the convergence.
3. Re-install the deflection yoke spacer.

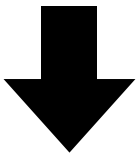
Note : This adjustment will affect the geometry of the display, therefore adjust to obtain the optimum setting.

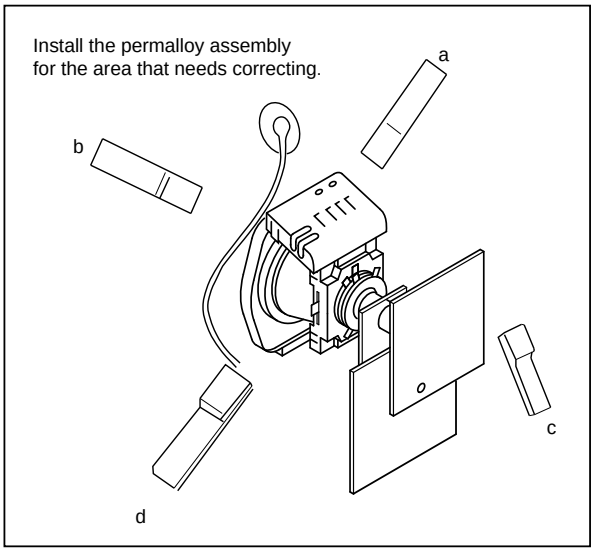


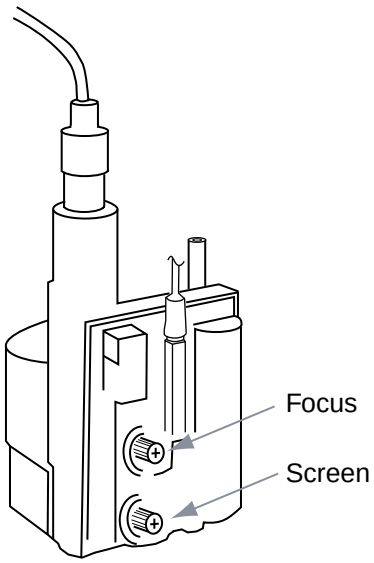
(3) Screen corner convergence.

• If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.









3-3. FOCUS

1. Receive a television broadcast signal.
2. Normalise the picture setting.
3. Adjust the focus control on the flyback transformer for the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.

3-4. WHITE BALANCE

G2 Screen Adjustment

1. Switch the TV set into AV mode [apply a cross-hatch signal].
2. Enter into the 'Service mode' and select 'Picture Control'.
3. Enter 'Picture Control' and select 'Personal' press OK.
4. Return to 'Picture Control' menu and select 'Reset'.
5. Measure the voltages on the 3 cathodes of the CRT, Kr,Kg and Kb using an oscilloscope with a 100:1 probe.
6. Connect the oscilloscope to the CRT cathode which recorded the highest voltage and adjust [RV702 SCREEN] located on the C Board to obtain a reading of 175V.

White Balance Adjustment

1. Input an all white signal from the pattern generator.
2. Enter into the Service Mode.
3. Enter into the 'Picture Adjustment' service menu.
4. Select 'Sub contrast' and adjust to 7.
5. Select the 'Green drive' and adjust so that the white balance becomes optimum.
6. Select the 'Blue drive' and adjust so that the white balance becomes optimum.
7. Press the 'TV' button on the remote commander to return to TV operation.

PICTURE ADJUSTMENT	
AFC mode	1
REF position	2
SCP BGR	1
SCP BGF	1
Trap fo	0
Sub contrast	Adj
Sub colour	Adj
Sub brightness	Adj
Sub hue	Adj
Green drive	Adj
Blue drive	Adj
Green cutoff	Adj
Blue cutoff	Adj
Gamma	0
Pre / overshoot	0
Y delay	3

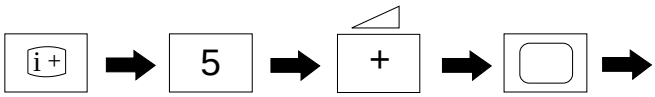
SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustments to this model can be performed using the supplied Remote Commander RM-887.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



(ON SCREEN DISPLAY) (DIGIT 5) (VOLUME +) (TV)

- 'TT--' will appear in the upper right corner of the screen.
  Other status information will also be displayed.

3. Press 'MENU' on the remote commander to obtain the following menu on the screen.

TEST MENU

> Picture
  Geometry
  Sound
  TV Status
  AGC Adjust
  Technical

4. Move to the corresponding adjustment item using the 'Green' [up] or 'Blue' [down] buttons on the Remote Commander.
5. Press the 'Yellow' button to enter into the required menu item.
6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note : The data shown in the 'TV STATUS' table is dependant on destination and country.

PICTURE	
R - Drive	Adj
G - Drive	Adj
B - Drive	Adj
R - cut - off	Adj
G - cut - off	Adj
B - cut - off	Adj
ID - start	02
ID - stop	01
ID - level	01
Bell-f0	Adj
Sub Colour	Adj
Sub Brightness	Adj

GEOMETRY	
V centre	Adj
V size	Adj
V Lin	Adj
S Corr	Adj
H Cent	Adj
H Size	Adj
Pin Amp	Adj
Upper Pin	Adj
Lower Pin	Adj
Upper V lin	Adj
Lower V lin	Adj
Pin Phase	Adj
V Bow	Adj
V Angle	Adj
Upper V Lin	Adj
Lower V Lin	Adj
Left HBLK	07
Right HBLK	07
CD Mode (AV)	01
EHT-comp	12

SOUND	
Nicam Error Lower	20
Nicam Error Upper	80
Nicam Error Rate	xx [Status only]
AGC Gain Level	xx [Status only]

TV STATUS	
Destination	A/L/E/U/D/B/K/R
Text Language	East/West

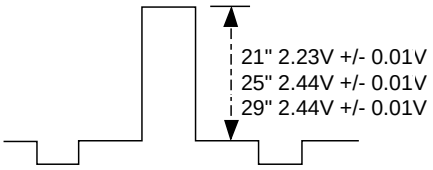
TECHNICAL	
GD - Secam	31
BD - Secam	31
RC - Secam	15
GC - Secam	15
BC - Secam	14
GD - Sports	32
BD - Sports	34
RC - Sports	14
GC - Sports	15
BC - Sports	16
Y - Delay (AV)	07

SUB BRIGHTNESS ADJUSTMENT

1. Input a Phillips colour pattern.
2. Press 'TEST' 'TEST' 13 on the Remote Commander.
3. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

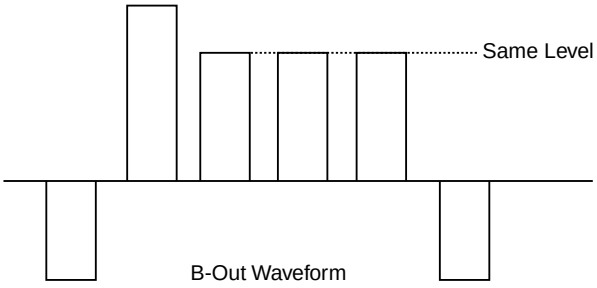
SUB CONTRAST ADJUSTMENT

1. Input a video signal that contains a small 100% white area on a black background
2. Set the picture control to maximum. ['TT01']
3. Connect an oscilloscope to Pin 1 of CN504 [A Board].



R - out Waveform

4. Enter into the 'Picture' service menu.
5. Adjust the 'R - Drive' data to obtain the following waveform.



B-Out Waveform

SUB COLOUR ADJUSTMENT

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 3 of CN504 [A Board].
3. Enter into the 'Picture' service menu.
4. Adjust the 'Sub Colour' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.

Note: Ensure that no signal is applied to the Antenna socket while carrying out the following IF adjustments.

SYSTEM B/G, D/K, I & L I.F ADJUSTMENT

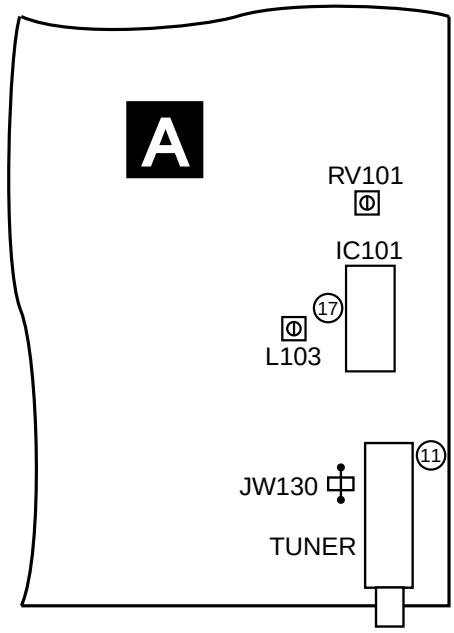
1. Input a 38.9Mhz carrier signal at 100dBuV to Pin 11 [IF output] of the tuner [TU101].
2. Measure the voltage at Pin 17 of [IC101].
3. Adjust L103 [A Board] to obtain a voltage of 1.4V +/- 0.3V.

SYSTEM L BAND 1 I.F ADJUSTMENT

1. Input a 33.9MHz carrier signal at 100dBuV to Pin 11 [IF output] of the tuner [TU101].
2. Select 'system L' + C00 [channel 00].
3. Measure the voltage at Pin 17 [IC101].
4. Adjust RV101 [A Board] to obtain a voltage of 1.4V +/- 0.3V.

TUNER AGC ADJUSTMENT

1. Receive a signal of 62dBuV / 75 ohm terminated, via the tuner antenna socket.
2. Connect a voltmeter to JW130 [A Board].
3. Enter into the 'Test Menu'.
4. Select the 'AGC Adjust' menu item.
5. Adjust the data using the Yellow and Green buttons on the Remote Commander to obtain a voltage of 3.5V +/- 0.3V.

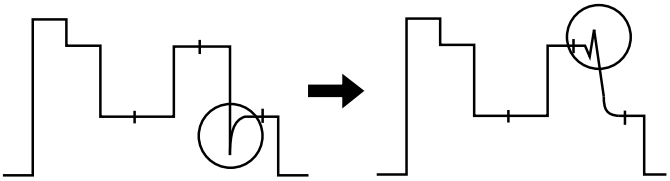


A Board component side

BELL FILTER ADJUSTMENT (Secam models only)

Note : Ensure that the TV set has been powered up for at least 1 minute to allow for drift before carrying out the following adjustment.

1. Input a video SECAM Colour Bar signal via AV1.
2. Connect an oscilloscope to pin 1 of CN504 [R-OUT] on the A board.
3. Enter into the 'Picture' menu and select 'Bell-f0'.
4. Decrease the register of 'Bell-f0' until the following waveform change between RED and BLUE is obtained.



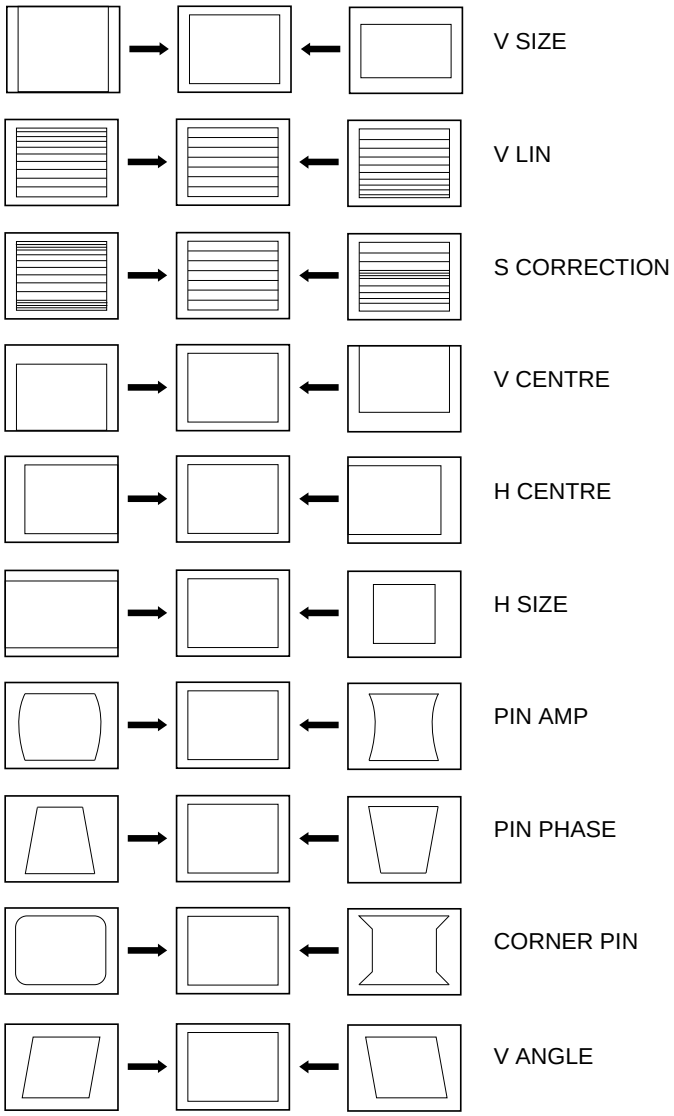
Before adjustment After adjustment

5. When the correct waveform has been obtained add an additional 7 steps to the register.

DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

GEOMETRY	
V centre	Adj
V size	Adj
V Lin	Adj
S Corr	Adj
H Cent	Adj
H Size	Adj
Pin Amp	Adj
Upper Pin	Adj
Lower Pin	Adj
Upper V lin	Adj
Lower V lin	Adj
Pin Phase	Adj
V Bow	Adj
V Angle	Adj
Upper V Lin	Adj
Lower V Lin	Adj
Left HBLK	07
Right HBLK	07
CD Mode (AV)	01
EHT-comp	12

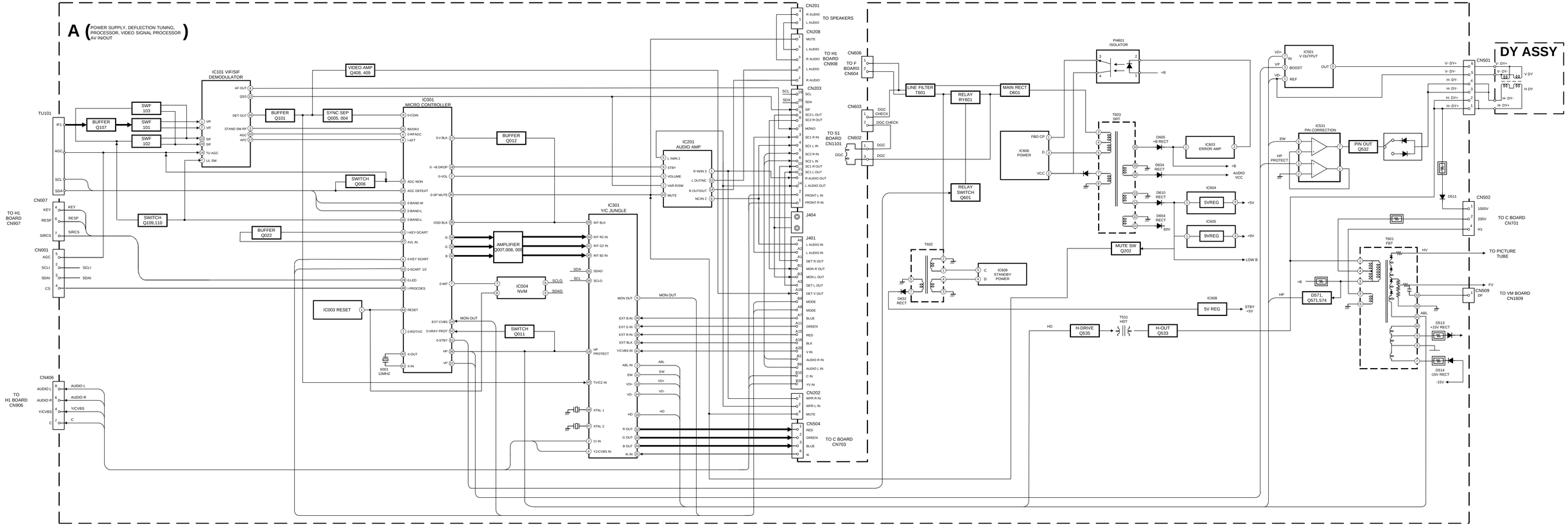


4-2. TEST MODE 2:

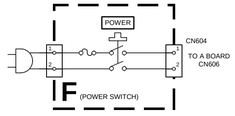
Is available by pressing ‘TEST’ button twice, OSD ‘TT’ appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0 twice, or switch the TV into stand-by mode, or press the 🖵 TV button on the remote commander.

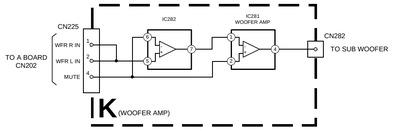
00	Cancel Test mode
01	Picture maximum
02	Picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing mode On/Off
08	Set shipping conditions
09	Display TV Status
10	No function
11	Sub Picture Adjustment
12	Sub Colour Adjustment
13	Sub Brightness Adjustment
14	Text H position Adjustment
15	Rotation test
16	Picture level 50%
17	Audio mute ON
18	Disable Blanking
19	No function
20	No function
21	Destination A
22	Destination L
23	Destination E
24	Destination U
25	Destination D
26	Destination B
27	Destination K
28	Destination R
29	No function
30	No function
31	Auto shutoff Disable/Enable
32	RGB priority Disable/Enable
33	Rotation On/OFF
34	Text language East/West
35	Wide CRT/4:3 CRT
36	VM ON/OFF test
37	No function
38	No function
39	No function
40	No function
41	Re-initialize the NVM [Only when Prog=59]
42	Re-initialise geometry settings [Only when Prog=59]
43	No function
44	No function
45	No function
46	No function
47	No function
48	Set NVM as NON Virgin [Only when Prog=59]
49	Set NVM as Virgin [Only when Prog=59]
50	No function
51	No function
52	No function
53	No function
54	No function
55	No function
56	No function
57	No function
58	No function
59	No function
60	No function
61	Auto AGC Adjust
62	Alternative Dest B Autotuning
63	Enable/Disable Y/C input
64	Signal Quality Check for Auto Tune
65	Signal Quality NOT Checked for Auto Tune
66	No function
67	Manual AGC Adjust
68 -100	No function

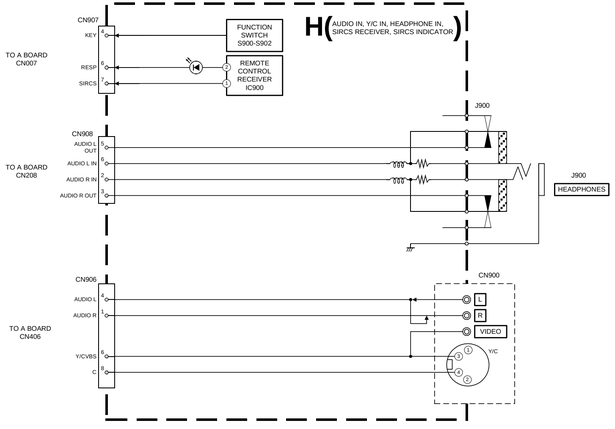
5-1 BLOCK DIAGRAMS (1)

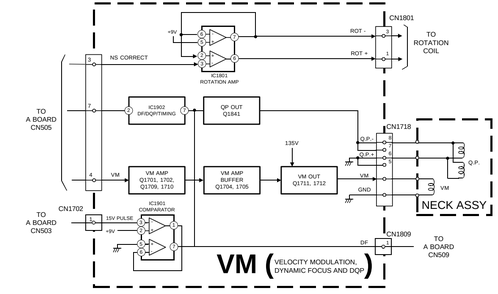


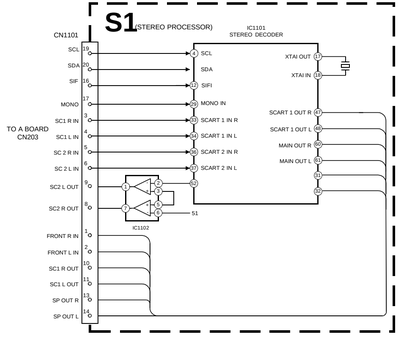
5-1 BLOCK DIAGRAMS (2)

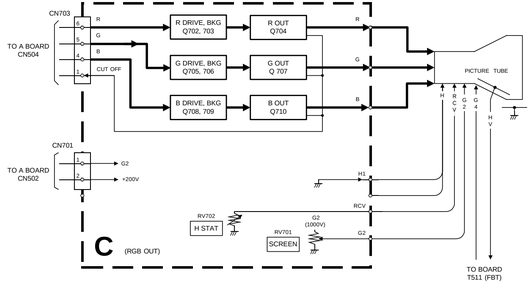




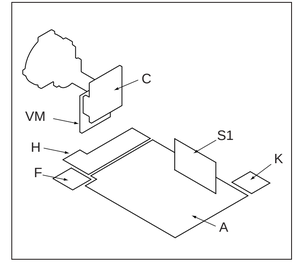








5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted.
- pF : µµF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Electrical power rating : 1/4W

- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.

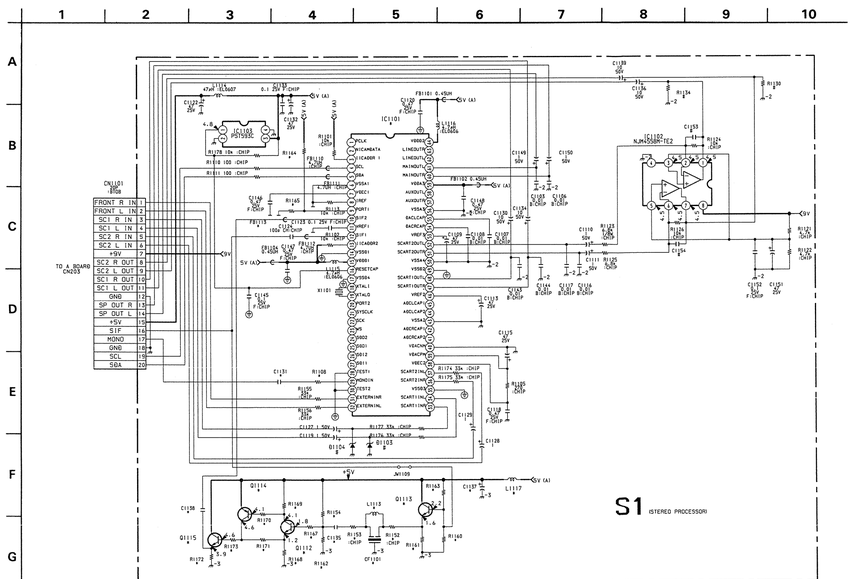
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

RESISTOR	**RN**	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	**LF-8L**	: MICRO INDUCTOR
CAPACITOR	**TA**	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

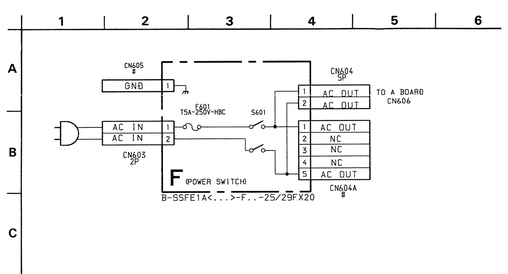
Note : Les composants identifiés par une trame et par une marque ⚠ sont d?une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.



33

S1 BOARD *MARK

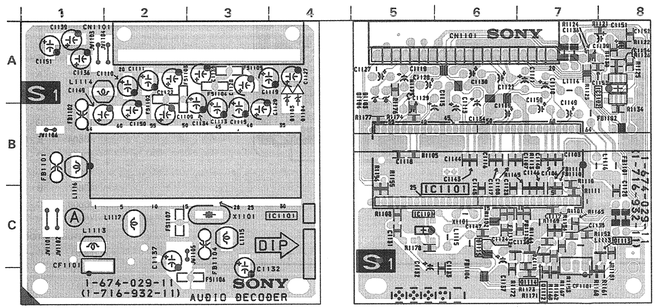
Ref	25FX20A 29FX20A	25FX20B 29FX20B	25FX20D 29FX20D	25FX20E 29FX20E	25FX20K 29FX20K	25FX20R 29FX20R	29FX20U
C1131	-	0.047MF	-	-	-	-	-
C1135	-	100PF	-	-	-	-	-
C1137	-	47MF	-	-	-	-	-
C1138	-	100PF	-	-	-	-	-
CF1101	-	6.5MHZ	-	-	-	-	-
FB1113	-	4.7UH	-	-	-	-	-
IC1101	TDA9870A	TDA9875A	TDA9870A	TDA9875A	TDA9875A	TDA9870A	TDA9875A
L1113	-	5.6UH	-	-	-	-	-
L1117	-	47UH	-	-	-	-	-
Q1112	-	2SC2412K-T-146-R	-	-	-	-	-
Q1113	-	2SC2412K-T-146-R	-	-	-	-	-
Q1114	-	2SA1037K-T-146-R	-	-	-	-	-
Q1115	-	2SC2412K-T-146-R	-	-	-	-	-
R1108	-	15K	-	-	-	-	-
R1152	-	270	-	-	-	-	-
R1153	-	100	-	-	-	-	-
R1154	-	5.6K	-	-	-	-	-
R1160	-	22K	-	-	-	-	-
R1161	-	470	-	-	-	-	-
R1162	-	3.3K	-	-	-	-	-
R1163	-	22K	-	-	-	-	-
R1164	-	10K	-	10K	10K	-	10K
R1165	SHORT 0	-	SHORT 0	-	-	SHORT 0	-
R1167	-	100	-	-	-	-	-
R1168	-	220	-	-	-	-	-
R1169	-	1K	-	-	-	-	-
R1170	-	10	-	-	-	-	-
R1171	-	680	-	-	-	-	-
R1172	-	470	-	-	-	-	-
R1173	-	1K	-	-	-	-	-



34

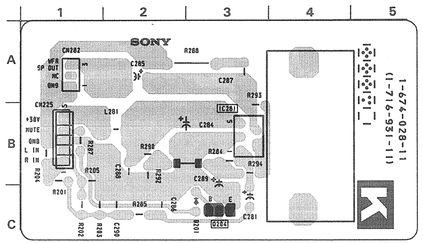
S1 [STEREO PROCESSOR]

S1 Board



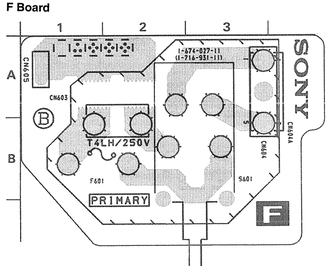
35

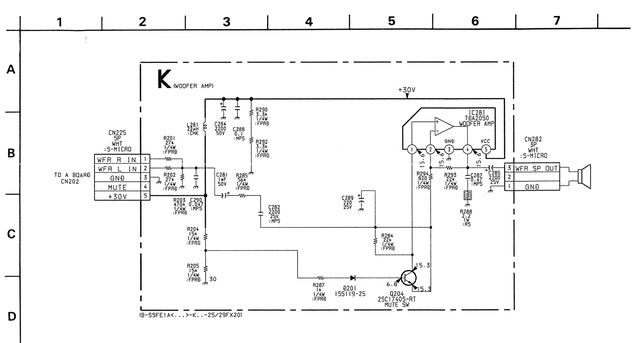
K [WOOFER AMP]



F [POWER SWITCH]

F Board



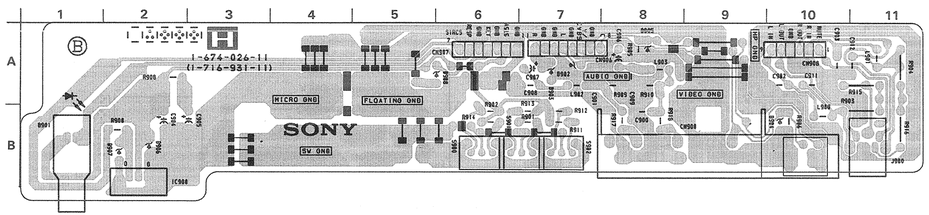


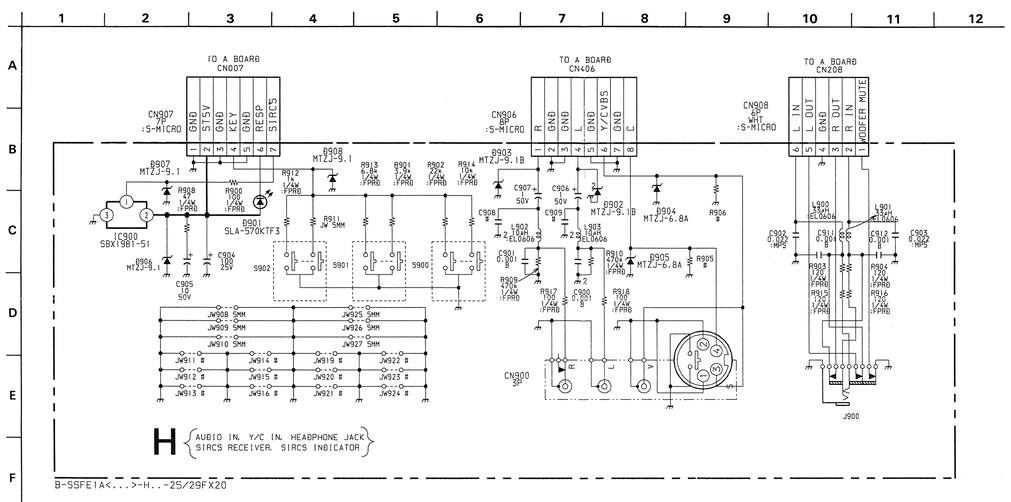
36

H

AUDIO IN, Y/C IN, HEADPHONE JACK, SIRCS RECEIVER, SIRCS INDICATOR

H Board





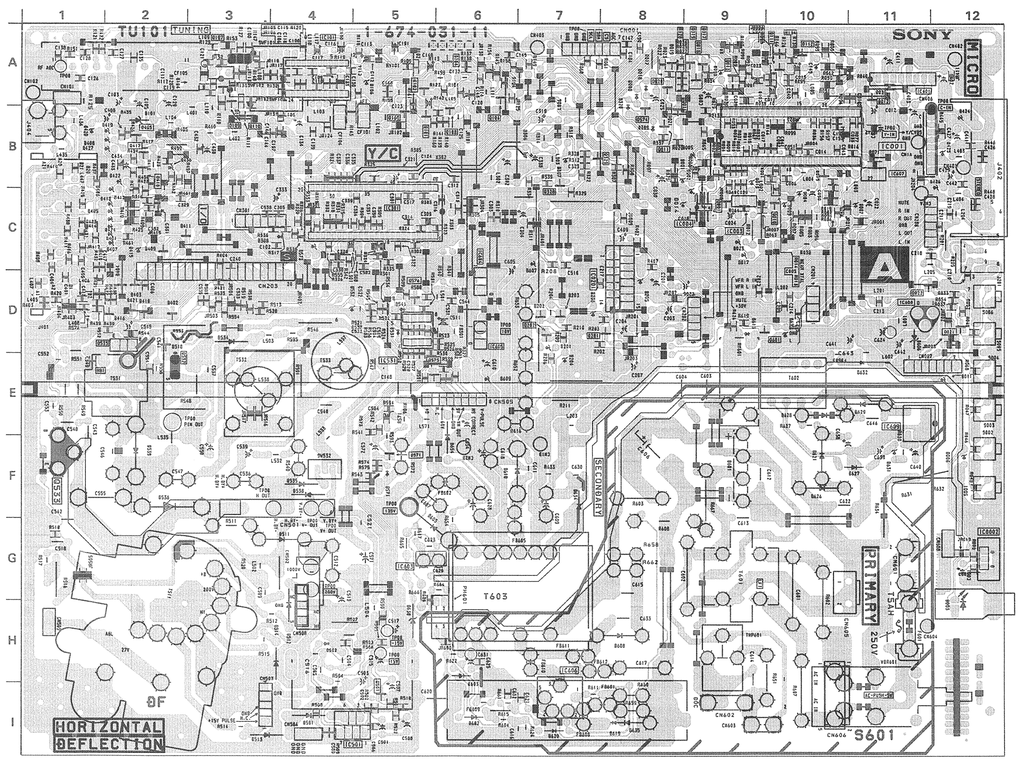
A BOARD

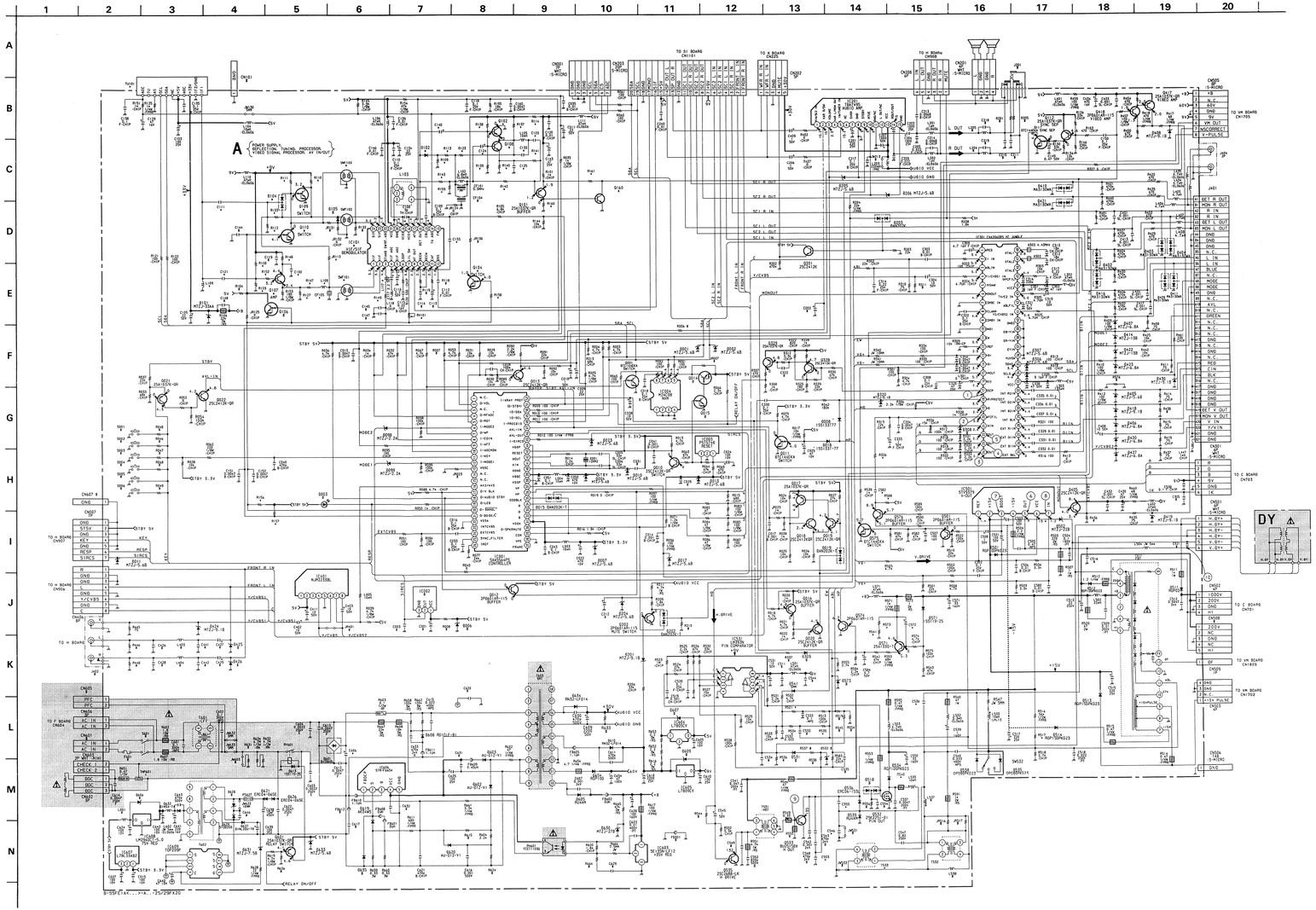
IC		Q532	E - 2	D419	C -2
IC001	B - 11	Q533	F - 1	D420	C -2
IC003	C - 9	Q535	D - 1	D421	D - 2
IC004	C - 9	Q571	F - 5	D422	C -1
IC101	A - 4	Q574	B - 8	D423	C - 1
IC201	C - 7	Q575	E - 6	D424	B - 12
IC301	C - 5	Q576	C - 6	D427	B - 2
IC401	A - 11	Q601	D - 10	D430	B - 3
IC501	I - 4			D501	I - 4
IC531	D - 5	**DIODE**		D502	H - 4
IC603	G - 5	D001	B - 8	D511	G - 3
IC604	E - 6	D002	B - 8	D512	H - 3
IC605	D - 6	D004	C - 10	D513	I - 3
IC606	I - 7	D007	C - 11	D514	H - 3
IC607	B - 11	D008	B - 8	D534	D - 3
IC608	D - 12	D011	E - 12	D535	F - 4
IC609	E - 11	D013	C - 9	D536	F - 2
TRANSISTOR		D015	C - 9	D538	F - 4
Q001	C - 9	D017	C - 9	D539	F - 2
Q010	C - 10	D018	B - 8	D541	D - 5
Q011	B - 8	D019	A - 8	D571	F - 5
Q012	B - 11	D023	C - 9	D601	F - 9
Q013	A - 9	D098	A - 9	D602	I - 6
Q016	B - 8	D099	A - 10	D603	H - 6
Q017	A - 9	D101	B - 2	D605	G - 6
Q018	A - 9	D104	A - 3	D608	H - 8
Q019	A - 9	D201	D - 7	D610	F - 7
Q020	A - 8	D202	D - 7	D613	E - 9
Q021	D - 12	D203	D - 7	D619	I - 8
Q022	D - 11	D204	D - 7	D620	I - 7
Q101	B - 5	D205	D - 8	D621	F - 10
Q102	A - 5	D206	D - 7	D626	F - 10
Q104	A - 6	D306	C - 6	D627	F - 10
Q107	A - 3	D307	C - 6	D629	E - 11
Q108	B - 6	D320	B - 8	D631	F - 11
Q109	B - 3	D402	D - 2	D632	E - 10
Q110	B - 3	D403	D - 2	D633	E - 9
Q111	A - 10	D404	D - 2	D634	F - 7
Q112	A - 10	D405	C - 1	D654	F - 6
Q160	B - 5	D406	C - 2		
Q201	E - 8	D407	D - 2		
Q202	D - 7	D408	B - 2		
Q328	C - 7	D409	C - 2		
Q329	B - 7	D410	D - 2		
Q405	B - 2	D411	C - 2		
Q417	B - 2	D414	C - 1		
Q418	B - 2	D416	D - 2		
Q501	I - 5	D418	C - 1		

A

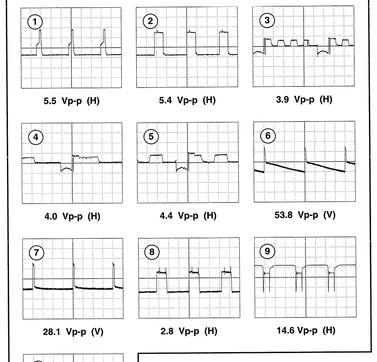
POWER SUPPLY, DEFLECTION, TUNING, PROCESSOR
VIDEO SIGNAL PROCESSOR, AV IN/OUT

A Board



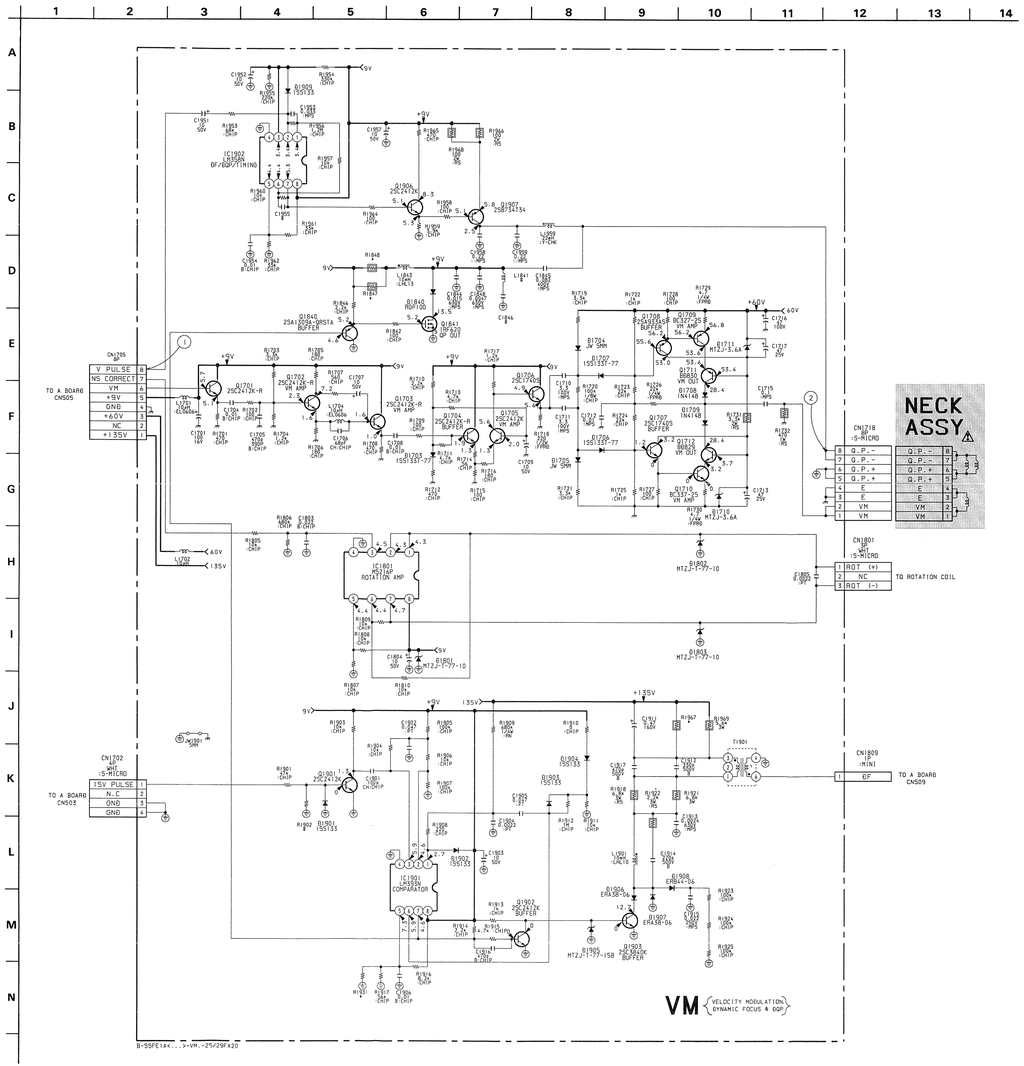


WAVEFORMS A BOARD



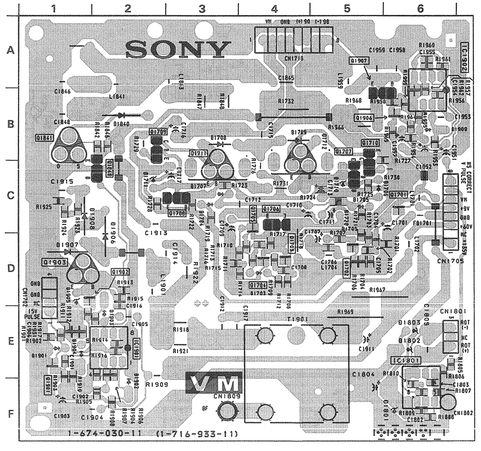
A BOARD *MARK

Ref	25FX20A	25FX20B	25FX20D	25FX20E	25FX20K	25FX20R	25FX20A	25FX20B	25FX20D	25FX20E	25FX20K	25FX20R	25FX20U
C100	-	0.1MF	-	-	-	-	-	0.1MF	-	-	-	-	-
C111	SHORT 0	0.01MF	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	0.01MF	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
C121	-	0.01MF	-	-	-	-	-	0.01MF	-	-	-	-	-
C123	150PF	-	150PF	150PF	150PF	150PF	150PF	-	150PF	150PF	150PF	150PF	150PF
C124	47MF	-	47MF	47MF	47MF	47MF	47MF	-	47MF	47MF	47MF	47MF	-
C125	47PF	-	47PF	47PF	100PF	100PF	47PF	-	47PF	47PF	100PF	100PF	-
C132	68PF	-	68PF	68PF	-	-	68PF	-	68PF	68PF	-	68PF	-
C133	-	1MF	-	-	-	-	-	1MF	-	-	-	-	-
C140	-	47MF	-	-	-	-	-	47MF	-	-	-	-	-
C536	0.75MF	0.75MF	0.75MF	0.75MF	0.75MF	0.75MF	0.82MF	0.82MF	0.82MF	0.82MF	0.82MF	0.82MF	0.82MF
C546	0.056MF	0.056MF	0.056MF	0.056MF	0.056MF	0.056MF	0.051MF	0.051MF	0.051MF	0.051MF	0.051MF	0.051MF	0.051MF
C553	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 200V	0.0047MF 100V
C555	-	-	-	-	-	-	-	1800PF	1800PF	1800PF	1800PF	1800PF	1800PF
C572	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 16V	100MF 10V
C582	470PF	470PF	470PF	470PF	470PF	470PF	220PF	220PF	220PF	220PF	220PF	220PF	220PF
C606	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 400V
C638	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V
CF105	-	TRAP CERAMIC	-	-	-	-	-	TRAP CERAMIC	-	-	-	-	-
D102	-	BA592-GS5	-	-	-	-	-	BA592-GS5	-	-	-	-	-
D104	-	DAN202K	-	-	-	-	-	DAN202K	-	-	-	-	-
IC101	TDA8817IV1	TDA8818V1	TDA8817V1	TDA8817V1	TDA8817V1	TDA8817V1	TDA8818V1	TDA8817IV1	TDA8817IV1	TDA8817IV1	TDA8817IV1	TDA8817IV1	TDA8817IV1
JR113	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	-	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
L105	10UH	-	10UH	10UH	10UH	10UH	10UH	-	10UH	10UH	10UH	10UH	-
L106	-	0.22UH	-	-	-	-	-	0.22UH	-	-	-	-	-
L109	-	0.47UH	-	-	-	-	-	0.47UH	-	-	-	-	-
L117	-	4.7UH	-	-	-	-	-	4.7UH	-	-	-	-	-
Q102	-	2SA1037K,T146-QR	-	-	-	-	-	2SA1037K,T146-QR	-	-	-	-	-
Q104	-	DTC144EKA-T146	-	-	-	-	-	DTC144EKA-T146	-	-	-	-	-
Q107	-	2SC3779C, D-AA	-	-	-	-	-	2SC3779C, D-AA	-	-	-	-	-
Q108	2SC1623-L5L6	2SC1623-L5L6	2SC1623-L5L6	2SC1623-L5L6	2SC1623-L5L6	2SC1623-L5L6	2SC412K	2SC412K	2SC2412K	2SC412K	2SC2412K	2SC2412K	2SC412K
Q109	-	DTC144EKA-T146	-	-	-	-	-	DTC144EKA-T146	-	-	-	-	-
Q110	-	DTC144EKA-T146	-	-	-	-	-	DTC144EKA-T146	-	-	-	-	-
Q160	-	-	-	-	-	-	2PD601AR	2PD601AR	2PD601AR	2PD601AR	2PD601AR	2PD601AR	2PD601AR
R109	-	3.3K	-	-	-	-	-	3.3K	-	-	-	-	-
R110	-	1.2K	-	-	-	-	-	1.2K	-	-	-	-	-
R111	-	1.5K	-	-	-	-	-	1.5K	-	-	-	-	-
R112	-	1.5K	-	-	-	-	-	1.5K	-	-	-	-	-
R113	-	150	-	-	-	-	-	150	-	-	-	-	-
R114	SHORT 0	470	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	470	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R123	-	330	-	-	-	-	-	330	-	-	-	-	-
R127	-	180	-	-	-	-	-	180	-	-	-	-	-
R128	-	4.7K	-	-	-	-	-	4.7K	-	-	-	-	-
R129	-	3.9K	-	-	-	-	-	3.9K	-	-	-	-	-
R133	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R137	270	2.2K	270	270	270	270	270	2.2K	270	270	270	270	-
R138	100K	39K	100K	100K	100K	100K	100K	39K	100K	100K	100K	100K	100K
R139	68K	12K	68K	68K	68K	68K	68K	12K	68K	68K	68K	68K	68K
R140	270	-	270	270	270	270	270	-	270	270	270	270	270
R141	560	SHORT 0	560	560	560	560	560	SHORT 0	560	560	560	560	560
R142	-	560	-	-	-	-	-	560	-	-	-	-	-
R143	180	-	180	180	220	220	120	-	120	120	220	220	180
R147	-	47	-	-	-	-	-	47	-	-	-	-	-
R148	-	100	-	-	-	-	-	100	-	-	-	-	-
R149	-	1K	-	-	-	-	-	1K	-	-	-	-	-
R152	-	100	-	-	-	-	-	100	-	-	-	-	-
R156	-	4.7K	-	-	-	-	-	4.7K	-	-	-	-	-
R157	-	4.7K	-	-	-	-	-	4.7K	-	-	-	-	-
R158	-	100	-	-	-	-	-	100	-	-	-	-	-
R159	3.3K	1.5K 1/10W	3.3K	3.3K	3.3K	3.3K	3.3K	1.5K 1/4W	3.3K	3.3K	3.3K	3.3K	-
R160	-	-	-	-	-	-	1K	SHORT 0	1K	1K	1K	1K	1K
R161	-	-	-	-	-	-	SHORT 0	68	68	68	68	68	68
R226	1M	1M	1M	1M	1M	1M	470K	470K	470K	470K	470K	470K	470K
R505	4.7K	4.7K	4.7K	4.7K	4.7K	4.7K	-	-	-	-	-	-	-
R508	4.7K	4.7K	4.7K	4.7K	4.7K	4.7K	-	-	-	-	-	-	-
R517	15K	15K	15K	15K	15K	15K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K
R521	680K	680K	680K	680K	680K	680K	1M	1M	1M	1M	1M	1M	1M
R534	470K	470K	470K	470K	470K	470K	220K	220K	220K	220K	220K	220K	220K
R535	330K	330K	330K	330K	330K	330K	150K	150K	150K	150K	150K	150K	150K
R541	68K	68K	68K	68K	68K	68K	100K	100K	100K	100K	100K	100K	100K
R546	4.7	-	4.7	4.7	4.7	4.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3
R573	330K	330K	330K	330K	330K	330K	100K	100K	100K	100K	100K	100K	100K
R588	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	4.7K	4.7K	4.7K	4.7K	4.7K	4.7K	4.7K
R9101	-	22K	-	-	-	-	-	22K	-	-	-	-	-
SWF101	1-767-874-11	1-579-273-11	1-767-874-11	1-767-874-11	1-579-273-11	1-579-273-11	1-767-874-11	1-767-874-11	1-767-874-11	1-767-874-11	1-579-273-11	1-579-273-11	1-579-273-11
SWF103	-	FILTER, SURFACE WAVE	-	-	-	-	-	FILTER, SURFACE WAVE	-	-	-	-	-
T533	1-433-905-11	1-433-905-11	1-433-905-11	1-433-905-11	1-433-905-11	1-433-905-11	1-433-906-11	1-433-906-11	1-433-906-11	1-433-906-11	1-433-906-11	1-433-906-11	1-433-906-11
THP601	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-810-961-11	1-809-039-31
TU101	BTP-AC411	TELE-001A	BTP-AC411	BTP-AC411	BTP-AC411	BTP-AC411	BTP-AC411	TELE-001A	BTP-AC411	BTP-AC411	BTP-AC411	BTP-AC411	BTP-AC411



VM [VELOCITY MODULATION, DYNAMIC FOCUS & DQP]

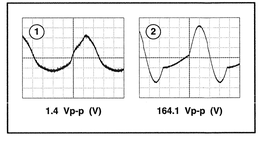
VM Board



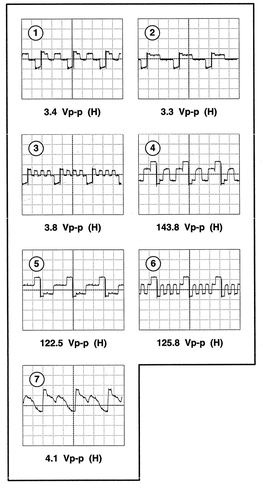
VM BOARD *MARK

Ref	25FX20	29FX20
R1847	82	100
R1848	68	120
R1931	39K	47K
R1967	5.6K	18K

WAVEFORMS VM BOARD

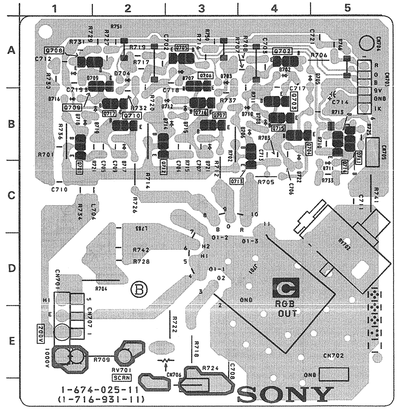


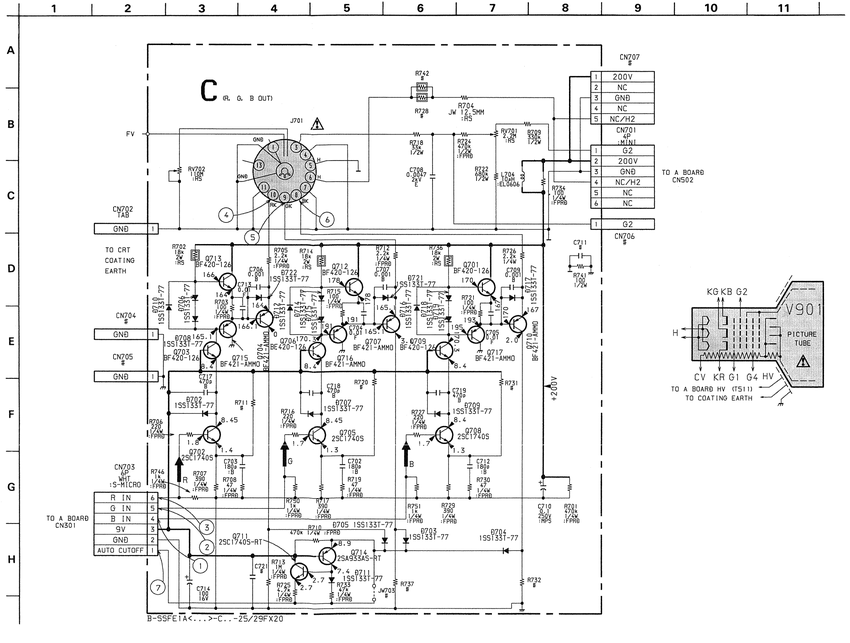
WAVEFORMS C BOARD



C [R, G, B OUT]

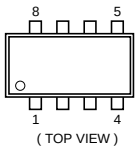
C Board



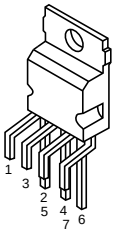


5-4. SEMICONDUCTORS (1)

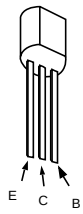
LM358DR-EZ
NJM2233BL
NJM4558M-TE2
NJM2903D



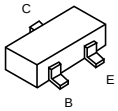
STV9379



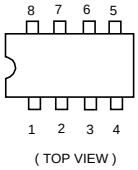
BF421-AMMO
2SA1091-O



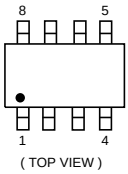
DTA144ESA
DTA144ESA-TP
DTC114EKA
DTC114EKA-T146
DTC143TKA-T146
DTC144EKA-T-146R
2SA1037K-T-T-146-R
R2SA1162-G
2SA1037K-T-146-QR
2SD601A-QTX
2SC1623-L5-L6
2SC2412K-QR
2SC2412K-T-146-R



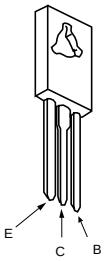
LM393PN
TDA2822M
TEA2124



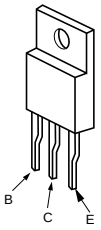
ST24W08FM6TR



2SC688-LK



IRF614



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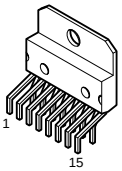

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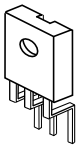

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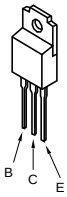

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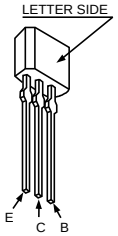
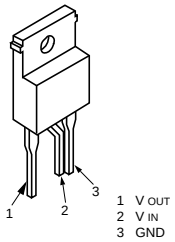
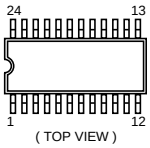
2SAG33ASQT
2SA933AS-RT
2SC1740S-RT



SE-135N
SE135N-LF12



TDA9818-V1
TDA9817-V1



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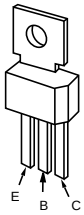
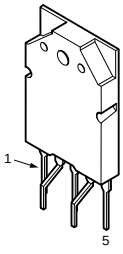
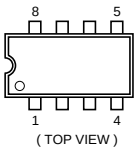


STR-F6654



TOP209P



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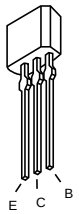
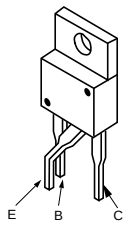
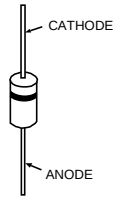


5-4. SEMICONDUCTORS (2)

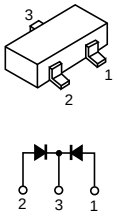
2SK2251-01-F19



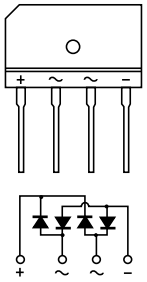
AK04-V1
AU-01Z-V1
BYD33G
BYD33G-AMMO
DINL20-TR
ERB44-06TP1
EGP20G
EG-1Z-V1
EL1Z
ERD28-06S
ERD28-08S
ERC06-15SL
FMN-G12S
GP08D
RG1CLF-B1
RGP10GPKG23
RU-3AM
RU3YX-LF-C4
RU3YX-V1
RU-4AM-T3
1SS292T-77



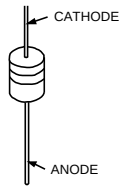
DAN202K
DAN202K-T146



D4SB60L



ERA81-004TP1
ERA83-006
MTZJ-3.6A
MTZJ-T-77-2.2A
HZS9.INBZ
MTZJ-T-77-3.9B
MTZJ-T-77-5.6B
MTZJ-T-77-5.6C
MTZJ-T-77-6.8A
MTZJ-T-77-6.8C
MTZJ-T-77-7.5C
MTZJ-T-77-9.1A
MTZJ-T-77-10
MTZJ-T-77-33A
MTZJ-33C
MTZJ-7.5B
RD3.9ES-B2
RD5.6ESB2
RD6.8ES-B2
RD7.5ESB2
RD9.1ES-B3
RD10ESB2
RD15ESB2
1SS119-25
1SS133T-77



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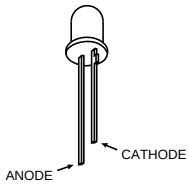
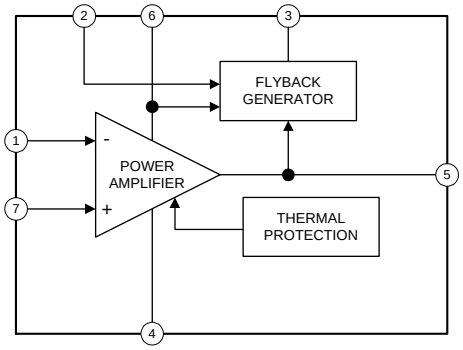
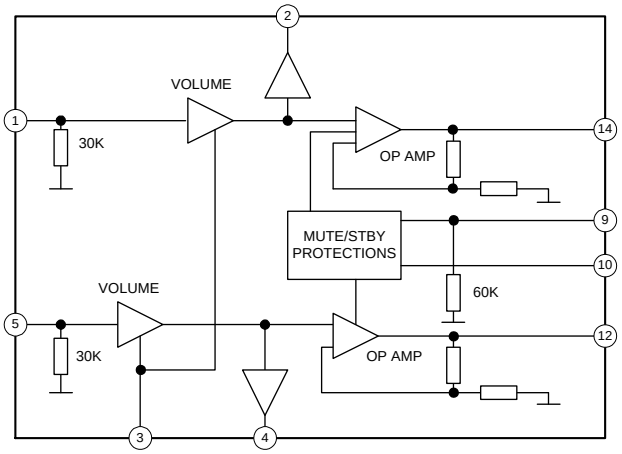


5-5. IC BLOCK DIAGRAMS

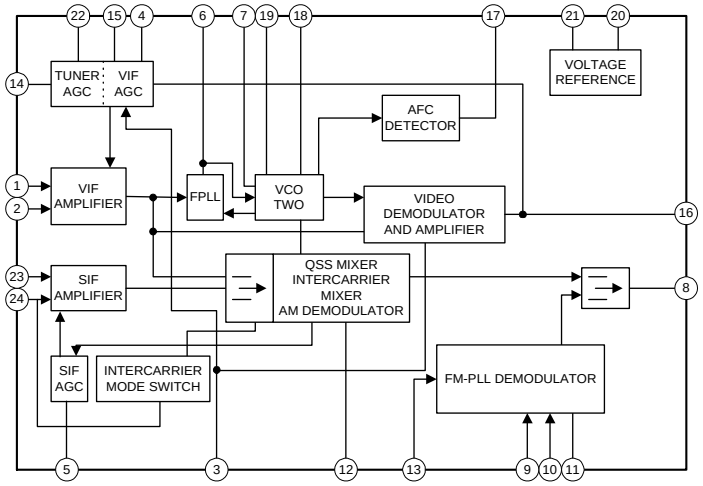
A BOARD IC501 STV 9379



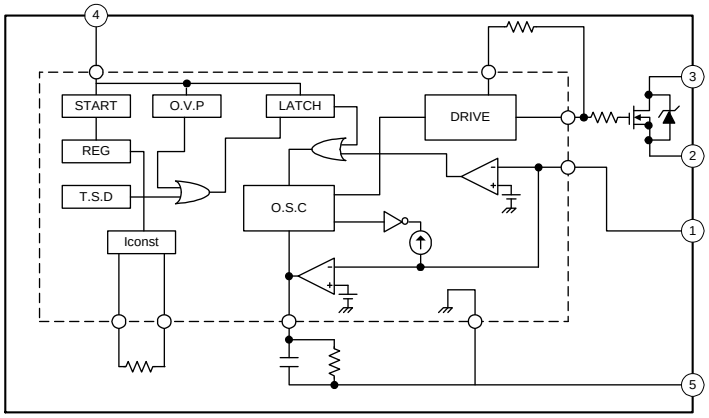
A BOARD IC201 TDA7495



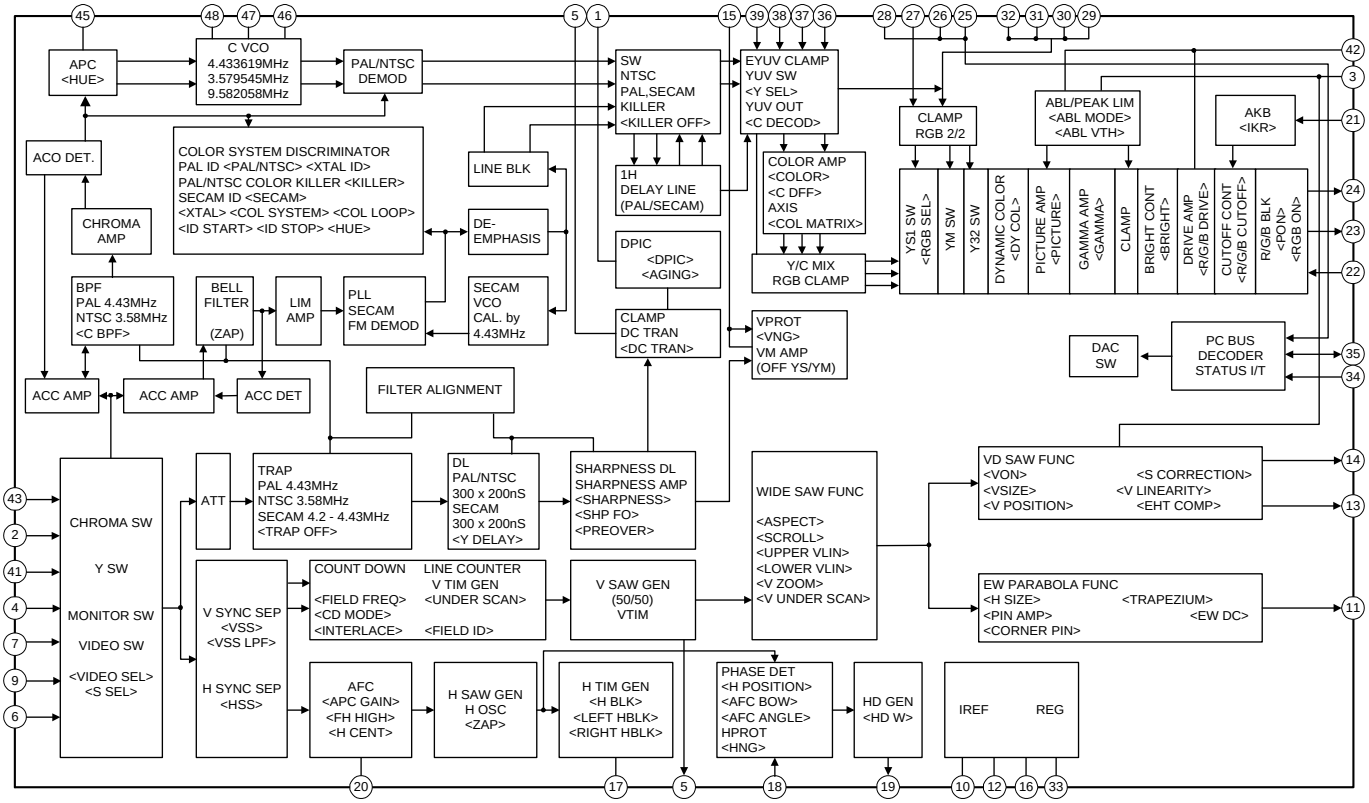
A BOARD IC101 TDA9817/V1



A BOARD IC606 STR-F6654



A BOARD IC301 CXA2060AS



SECTION 6
EXPLODED VIEWS

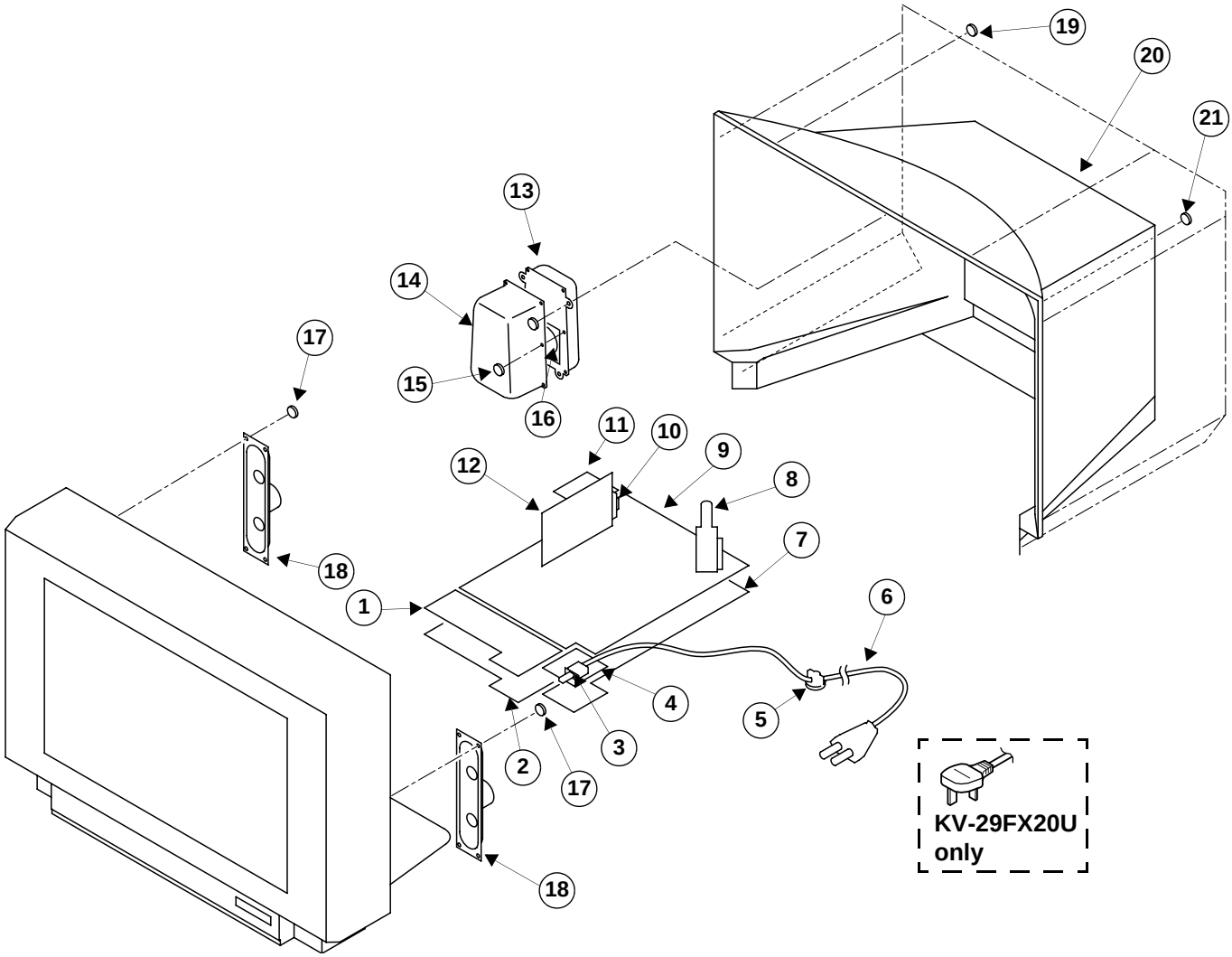
Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

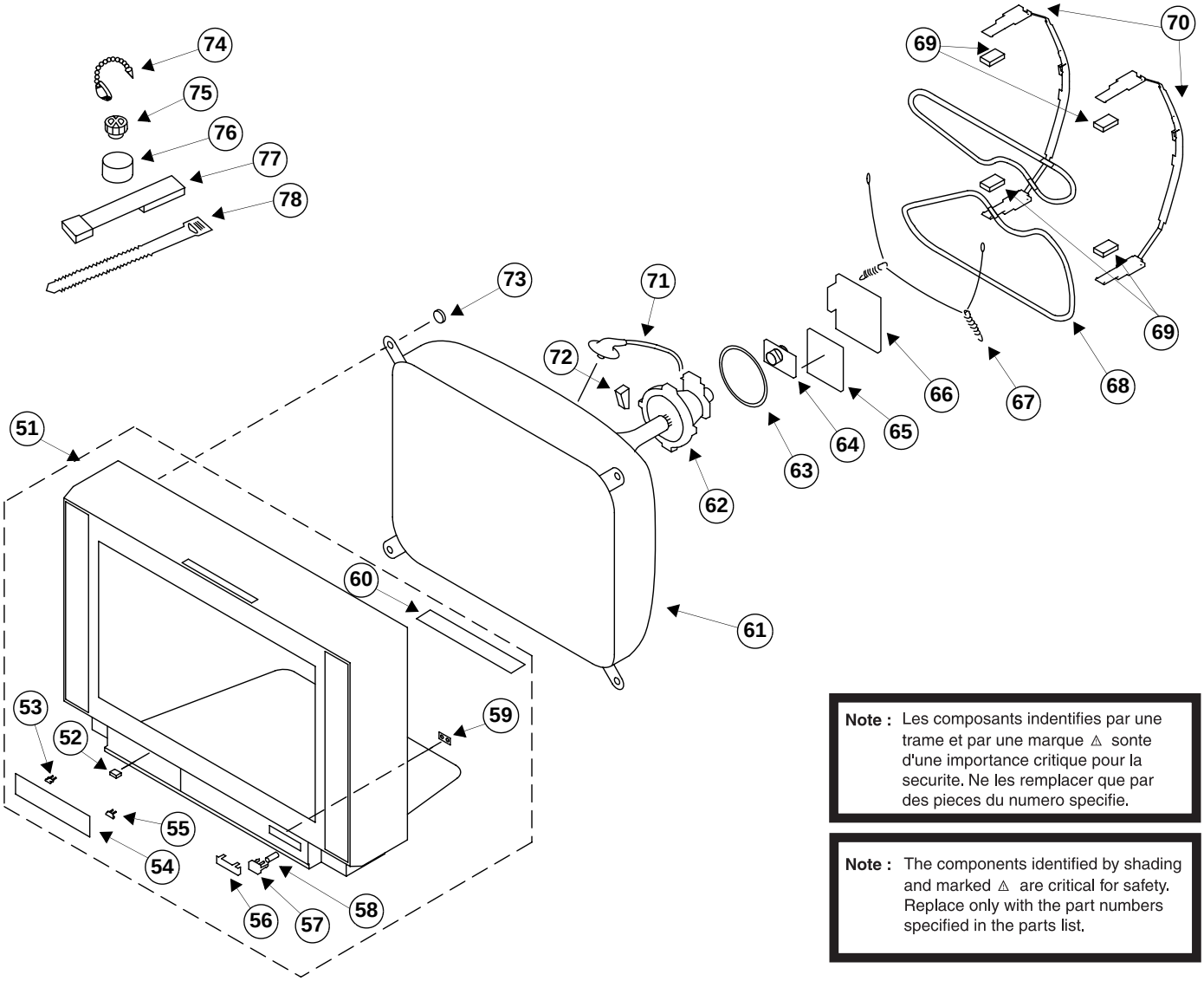
6-1. CHASSIS



REF. NO.		PART.NO	DESCRIPTION	REMARK
1		*A-1646-184-A	H BOARD, COMPLETE	
2		*4-204-744-01	BRACKET, H	
3	⚠	1-762-087-11	SWITCH, PUSH (AC POWER)	
4		*A-1624-080-A	F BOARD, COMPLETE	
5		*4-202-531-01	AC CORD LOCK (SC)	
6	⚠	1-765-286-11	CORD POWER (KV-25FX20/29FX20A/29FX20B/ KV-29FX20D/29FX20E/29FX20K/ KV-29FX20R)	
	⚠	1-776-860-12	CORD POWER FILTER UK (KV-29FX20U)	
7		*4-202-773-01	BRACKET, MAIN	
8	⚠	1-453-308-11	TRANSFORMER ASSY, FLYBACK (NX-4521//U2B4)	
9		*A-1632-843-A	A BOARD, COMPLETE (KV-25FX20A)	
		*A-1632-839-A	A BOARD, COMPLETE (KV-25FX20B)	
		*A-1632-842-A	A BOARD, COMPLETE (KV-25FX20D)	
		*A-1632-838-A	A BOARD, COMPLETE (KV-25FX20E)	
		*A-1632-841-A	A BOARD, COMPLETE (KV-25FX20K)	
		*A-1632-844-A	A BOARD, COMPLETE (KV-25FX20R)	
		*A-1632-833-A	A BOARD, COMPLETE (KV-29FX20A)	
		*A-1632-832-A	A BOARD, COMPLETE (KV-29FX20B)	
		*A-1632-831-A	A BOARD, COMPLETE (KV-29FX20D)	
		*A-1632-830-A	A BOARD, COMPLETE (KV-29FX20E)	
		*A-1632-836-A	A BOARD, COMPLETE (KV-29FX20K)	
		*A-1632-835-A	A BOARD, COMPLETE (KV-29FX20R)	
		*A-1632-834-A	A BOARD, COMPLETE (KV-29FX20U)	
10		8-598-432-00	TUNER (BTP-AC411) (KV-25FX20A/25FX20D/25FX20E/25FX20K/ KV-25FX20R/29FX20A/29FX20D/29FX20E/ KV-29FX20K/29FX20R)	
		1-693-418-11	TUNER (TELE9-001A) (KV-25FX20B/29FX20B)	
		8-598-464-00	TUNER (BTP-AU611) (KV-29FX20U)	

REF. NO.	PART.NO	DESCRIPTION	REMARK
11	*A-1649-023-A	K BOARD, COMPLETE	
12	*A-1654-041-A	S1 BOARD, COMPLETE (KV-25FX20A/25FX20D/25FX20R/ KV-29FX20A/29FX20D/29FX20R)	
	*A-1654-039-A	S1 BOARD, COMPLETE (KV-25FX20B/29FX20B)	
	*A-1654-040-A	S1 BOARD, COMPLETE (KV-25FX20E/25FX20K/25FX20U/ KV-29FX20E/29FX20K/29FX20U)	
13	*4-204-775-01	BAFFLE, WOOFER	
14	*4-204-776-01	BOX, WOOFER	
15	7-685-663-71	SCREW + BVTP 4x16 TYPE IT-3	
16	1-529-408-11	LOUD SPEAKER 4.2 x 20cm	
17	4-384-096-01	SCREW 4x16, TAPPING, + P	
18	1-529-417-11	SPEAKER 8cm	
19	7-685-663-71	SCREW +BVTP 4x16 TYPE 2 IT-3	
20	4-204-804-01	COVER, REAR (KV-25FX20)	
	4-204-772-01	COVER, REAR (KV-29FX20)	
21	7-685-663-79	SCREW +BVTP 4x16 TYPE 2 IT-3	

6-2. PICTURE TUBE



Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.		PART.NO	DESCRIPTION	REMARK
51		X-4200-481-1	BEZNET ASSY (KV-25FX20)	52-60
		X-4200-473-1	BEZNET ASSY (KV-29FX20)	52-60
		X-4200-473-2	BEZNET ASSY (KV-29FX201)	52-60
52		4-042-192-11	CATCHER, PUSH	
53		4-045-250-01	DAMPER	
54		4-204-770-01	DOOR, PAINTED (KV-25FX20A/25FX20D/25FX20R/29FX20)	
		4-204-770-11	DOOR, PAINTED (KV-25FX20B/25FX20E/25FX20K)	
55		3-703-035-11	SHAFT LID	
56		4-204-730-01	WINDOW ORNAMENTAL	
57		4-204-777-01	BUTTON, POWER	
58		4-204-426-01	SPRING	
59		4-204-785-01	GUIDE LIGHT	
60		4-204-666-01	SHEET, BLOTTING	
61	⚠	8-733-250-05	PICTURE TUBE (A60LPN70X) (KV-25FX20)	
	⚠	8-735-053-05	PICTURE TUBE (M68LNH060X) (KV-29FX20)	
62	⚠	1-451-475-11	DEFLECTION YOKE (Y25RSA) (KV-25FX20)	
	⚠	8-451-494-21	DEFLECTION YOKE (Y29RSA-M2) (KV-29FX20)	

REF. NO.		PART.NO	DESCRIPTION	REMARK
63		1-452-896-11	COIL, NA ROTATION (RT200)	
64	⚠	8-453-011-11	NECK ASSY, NA299-M	
65		*A-1674-141-A	VM BOARD, COMPLETE (KV-25FX20)	
		*A-1674-140-A	VM BOARD, COMPLETE (KV-29FX20)	
66		*A-1638-127-A	C BOARD, COMPLETE	
67		4-369-318-21	SPRING, TENSION	
68	⚠	1-419-142-11	COIL, DEGAUSSING (KV-25FX20)	
	⚠	1-416-654-11	COIL, DEMAGNETIC (KV-29FX20)	
69		4-203-390-11	CUSHION, DGC	
70		*4-204-812-01	HOLDER, DGC (KV-25FX20)	
		*4-204-768-01	HOLDER, DGC (KV-29FX20)	
71	⚠	1-251-317-31	CAP ASSY, HIGH VOLTAGE	
72		3-704-495-01	SPACER, DY	
73		4-302-404-03	SCREW (WASHER HEAD) (+P4x16)	
74		4-308-870-00	CLIP, LEAD WIRE	
75		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
76		1-425-032-00	MAGNET,DISK; 10MM Ø	
77		X-4387-214-1	PERMALLOY ASSY, CORRECTION	
78		3-701-007-00	BAND, BINDING	

SECTION 7
ELECTRICAL PARTS LIST

PARTS LISTING TABLE OF CONTENTS

Page

F BOARD COMPLETE Parts List : 58

A BOARD COMMON Parts List : Parts common to all models listed in this manual 58

A BOARD VARIANT Parts List : Parts that belong only to the model specified

Model

KV-25FX20A/25FX20D/25FX20E
KV-29FX20A/29FX20D/29FX20E 65

KV-25FX20B/29FX20B 66

KV-25FX20K/29FX20K 67

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C BOARD COMPLETE Parts List : Parts common to all models listed in this manual 70

VM BOARD COMMON Parts List : Parts common to all models listed in this manual 71

VM BOARD VARIANT Parts List : Parts that belong only to the model specified

Model

KV-25FX20 73

KV-29FX20 73

H BOARD COMPLETE Parts List : 73

K BOARD COMPLETE Parts List : 74

S1 BOARD COMMON Parts List : Parts common to all models listed in this manual 74

S1 BOARD VARIANT Parts List : Parts that belong only to the model specified

Model

KV-25FX20A/25FX20D/25FX20R
KV-29FX20A/29FX20D/29FX20R 75

KV-25FX20B/29FX20B 75

KV-25FX20E/25FX20K/
KV-29FX20E/29FX20K/29FX20U 76

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Note : Refer to the designated variant parts list when seeking a part indicated by an asterisk (*)

Parts indicated (#) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

F A

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK

***A-1624-080-A F Board, Complete**

< CONNECTOR >

CN603	£ *1-580-844-11	PIN, CONNECTOR (POWER)	
CN604	£ *1-691-292-11	PIN, CONNECTOR (PC BOARD) 3P	

< FUSE >

F601	£ 1-532-504-41	FUSE 4A/250V	
	£ *1-533-725-11	HOLDER, FUSE (F601)	

< SWITCH >

S601	£ 1-762-087-11	SWITCH, PUSH (AC POWER)	

***A-1632-843-A**	**A Board, Complete**	**(KV-25FX20A)**
***A-1632-839-A**	**A Board, Complete**	**(KV-25FX20B)**
***A-1632-842-A**	**A Board, Complete**	**(KV-25FX20D)**
***A-1632-838-A**	**A Board, Complete**	**(KV-25FX20E)**
***A-1632-841-A**	**A Board, Complete**	**(KV-25FX20K)**
***A-1632-844-A**	**A Board, Complete**	**(KV-25FX20R)**
***A-1632-833-A**	**A Board, Complete**	**(KV-29FX20A)**
***A-1632-832-A**	**A Board, Complete**	**(KV-29FX20B)**
***A-1632-831-A**	**A Board, Complete**	**(KV-29FX20D)**
***A-1632-830-A**	**A Board, Complete**	**(KV-29FX20E)**
***A-1632-836-A**	**A Board, Complete**	**(KV-29FX20K)**
***A-1632-835-A**	**A Board, Complete**	**(KV-29FX20R)**
***A-1632-834-A**	**A Board, Complete**	**(KV-29FX20U)**

A Board Common Parts

4-382-854-11 SCREW (M3X10), P, SW (+)

< CAPACITOR >

C005	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C006	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C009	1-128-551-11	ELECT	22MF	20%	25V
C010	1-126-960-11	ELECT	1MF	20%	50V
C011	1-126-965-11	ELECT	22MF	20%	50V
C013	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C014	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C015	1-104-665-11	ELECT	100MF	20%	10V
C016	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C017	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C018	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C022	1-126-925-11	ELECT	470MF	20%	10V
C024	1-104-665-11	ELECT	100MF	20%	10V
C025	1-104-664-11	ELECT	47MF	20%	10V
C027	1-104-665-11	ELECT	100MF	20%	10V
C028	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C033	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C035	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C038	1-126-964-11	ELECT	10MF	20%	50V
C040	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C041	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C043	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C050	1-126-925-11	ELECT	470MF	20%	10V
C051	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C103	1-104-665-11	ELECT	100MF	20%	25V
C105	1-126-965-11	ELECT	22MF	20%	50V
C108	1-163-465-11	CERAMIC CHIP	9PF	0.25PF	50V
C109	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C110	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C112	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C115	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C116	1-126-961-11	ELECT	2.2MF	20%	50V
C117	1-126-961-11	ELECT	2.2MF	20%	50V
C118	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C120	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C129	1-104-664-11	ELECT	47MF	20%	16V
C134	1-128-551-11	ELECT	22MF	20%	25V
C135	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C138	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C139	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C143	1-104-664-11	ELECT	47MF	20%	25V
C146	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C149	1-126-959-11	ELECT	0.47MF	20%	50V
C150	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C151	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C152	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C160	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C201	1-104-666-11	ELECT	220MF	20%	25V
C203	1-126-942-61	ELECT	1000MF	20%	25V
C204	1-126-942-61	ELECT	1000MF	20%	25V
C205	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C206	1-126-960-11	ELECT	1MF	20%	50V
C207	1-126-972-11	ELECT	1000MF	20%	50V
C209	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C213	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C214	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C217	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C240	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C301	1-163-226-91	CERAMIC CHIP	9PF		16V
C302	1-104-664-11	ELECT	47MF	20%	16V
C303	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C304	1-126-964-11	ELECT	10MF	20%	50V
C308	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C309	1-164-506-11	CERAMIC CHIP	4.7MF		16V
C312	1-163-233-11	CERAMIC CHIP	18PF	5%	50V

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

A

REF. NO.	PART.NO	DESCRIPTION			REMARK
C313	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C314	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C316	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C317	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C319	1-126-964-11	ELECT	10MF	20%	50V
C321	1-126-963-11	ELECT	4.7MF	20%	50V
C322	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C328	1-104-664-11	ELECT	47MF	20%	25V
C329	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C330	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C331	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C332	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C333	1-126-960-11	ELECT	1MF	20%	50V
C334	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C335	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C336	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C337	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C338	1-126-967-11	ELECT	47MF	20%	50V
C339	1-163-226-91	CERAMIC CHIP	9PF		16V
C350	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C351	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C401	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C402	1-126-964-11	ELECT	10MF	20%	50V
C403	1-126-964-11	ELECT	10MF	20%	50V
C405	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C408	1-126-964-11	ELECT	10MF	20%	50V
C409	1-126-960-11	ELECT	1MF	20%	50V
C411	1-126-964-11	ELECT	10MF	20%	50V
C413	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C417	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C430	1-104-664-11	ELECT	47MF	20%	25V
C432	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C433	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C434	1-126-935-11	ELECT	470MF	20%	16V
C501	1-126-968-11	ELECT	100MF	20%	50V
C502	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C503	1-126-968-11	ELECT	100MF	20%	50V
C504	1-106-220-00	MYLAR	0.1MF	10%	100V
C505	1-137-194-81	FILM	0.47MF	5%	50V
C506	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C507	1-126-933-11	ELECT	100MF	20%	16V
C508	1-126-960-11	ELECT	1MF	20%	50V
C509	1-107-364-11	MYLAR	0.01MF	10%	200V
C512	1-162-114-00	CERAMIC	0.0047MF		2KV
C513	1-107-662-11	ELECT	22MF	20%	250V
C515	1-104-666-11	ELECT	220MF	20%	25V
C517	1-104-666-11	ELECT	220MF	20%	25V

REF. NO.		PART.NO	DESCRIPTION			REMARK
C518		1-106-375-12	MYLAR	0.022MF	10%	250V
C519		1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C520		1-163-038-91	CERAMIC CHIP	0.1MF		25V
C522		1-130-495-00	FILM	0.1MF	5%	50V
C531		1-126-964-11	ELECT	10MF	20%	50V
C532		1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C537		1-137-417-11	MYLAR	0.0047MF	10%	200V
C538		1-165-319-11	CERAMIC CHIP	0.1MF		50V
C539		1-111-230-11	ELECT	1MF	20%	160V
C540		1-136-206-11	FILM	0.033MF	10%	400V
C541		1-106-383-00	MYLAR	0.047MF	10%	200V
C542		1-161-754-00	CERAMIC	0.001MF	10%	2KV
C543		1-162-134-11	CERAMIC	470PF	10%	2KV
C545		1-126-960-11	ELECT	1MF	20%	50V
C547		1-115-521-11	FILM	0.82MF	5%	250V
C548		1-162-134-11	CERAMIC	470PF	10%	2KV
C550		1-107-638-11	ELECT	33MF	20%	160V
C552		1-102-212-00	CERAMIC	820PF	10%	500V
C571		1-123-024-21	ELECT	33MF		160V
C580		1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C584		1-126-963-11	ELECT	4.7MF	20%	50V
C601	£	1-107-563-11	FILM	0.1MF	20%	300V
C602	£	1-107-563-11	FILM	0.1MF	20%	300V
C603	£	1-119-888-51	CERAMIC	0.0022MF	99%	250V
C604	£	1-119-888-51	CERAMIC	0.0022MF	99%	250V
C605		1-104-665-11	ELECT	100MF	20%	10V
C607		1-161-754-00	CERAMIC	0.001MF	10%	2KV
C609		1-128-550-11	ELECT	2200MF	20%	50V
C610		1-104-665-11	ELECT	100MF	20%	25V
C611		1-165-127-11	CERAMIC	470PF	10%	500V
C612	£	1-161-964-51	CERAMIC	0.0047MF		250V
C613	£	1-161-964-51	CERAMIC	0.0047MF		250V
C614	£	1-161-964-51	CERAMIC	0.0047MF		250V
C615		1-130-202-00	FILM	0.022MF	10%	400V
C616		1-162-318-11	CERAMIC	0.001MF	10%	500V
C618		1-107-890-51	ELECT	2200MF	20%	25V
C621		1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C622	£	1-161-964-51	CERAMIC	0.0047MF		250V
C623		1-107-364-11	MYLAR	0.01MF	10%	400V
C624		1-104-665-11	ELECT	100MF	20%	10V
C625		1-104-665-11	ELECT	100MF	20%	25V
C628		1-124-347-00	ELECT	100MF	20%	160V
C630		1-165-127-11	CERAMIC	470PF	10%	500V
C633		1-104-332-11	CERAMIC	470PF	10%	2KV
C638		1-107-679-11	ELECT	10MF	20%	450V
C639		1-104-665-11	ELECT	100MF	20%	25V
C640		1-104-664-11	ELECT	47MF	20%	10V

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The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK
C641	1-111-034-11	ELECT 220MF 20% 16V	
C642	1-104-665-11	ELECT 100MF 20% 10V	
C643	1-165-127-11	CERAMIC 470PF 10% 500V	
C654	1-107-932-11	ELECT 47MF 20% 100V	
		< FILTER >	
CF101	1-404-134-00	TRAP, CERAMIC (5.5MHZ)	
SWF102	1-767-873-11	FILTER, SURFACE WAVE	
		< CONNECTOR >	
CN001	*1-568-882-51	PIN, CONNECTOR 7P	
CN007	*1-568-882-51	PIN, CONNECTOR 7P	
CN201	*1-564-507-11	PLUG, CONNECTOR 4P	
CN202	*1-564-508-11	PLUG, CONNECTOR 5P	
CN203	*1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN208	*1-564-509-11	PLUG, CONNECTOR 6P	
CN301	*1-564-509-11	PLUG, CONNECTOR 6P	
CN406	*1-564-511-11	PLUG, CONNECTOR 8P	
CN501	*1-580-798-11	CONNECTOR PIN (DY)	
CN502	1-784-633-11	PIN, CONNECTOR 4P	
CN503	*1-564-507-11	PLUG, CONNECTOR 4P	
CN505	*1-564-511-11	PLUG, CONNECTOR 8P	
CN506	1-695-915-11	TAB (CONTACT)	
CN509	1-695-915-21	TAB CONTACT	
CN602	£ 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN603	£ *1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN606	£ *1-691-292-11	PIN, CONNECTOR (PC BOARD) 3P	
		< DIODE >	
D001	8-719-109-89	DIODE RD5.6ESB2	
D002	8-719-109-89	DIODE RD5.6ESB2	
D004	8-719-109-89	DIODE RD5.6ESB2	
D007	8-719-109-89	DIODE RD5.6ESB2	
D008	8-719-991-33	DIODE 1SS133T-77	
D010	8-719-109-89	DIODE RD5.6ESB2	
D011	8-719-109-89	DIODE RD5.6ESB2	
D013	8-719-109-89	DIODE RD5.6ESB2	
D015	8-719-914-43	DIODE DAN202K	
D017	8-719-109-89	DIODE RD5.6ESB2	
D018	8-719-991-33	DIODE 1SS133T-77	
D019	8-719-914-43	DIODE DAN202K	
D023	8-719-109-89	DIODE RD5.6ESB2	
D098	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D099	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D101	8-719-982-24	DIODE MTZJ-33A	
D201	8-719-929-15	DIODE HZS9.1NB2	
D202	8-719-914-43	DIODE DAN202K	
D203	8-719-914-43	DIODE DAN202K	
D204	8-719-109-89	DIODE RD5.6ESB2	
D205	8-719-109-89	DIODE RD5.6ESB2	
D206	8-719-109-89	DIODE RD5.6ESB2	
D306	8-719-109-89	DIODE RD5.6ESB2	
D307	8-719-109-89	DIODE RD5.6ESB2	
D320	8-719-929-15	DIODE HZS9.1NB2	
D402	8-719-421-59	DIODE MA3130WA-TX	
D403	8-719-421-59	DIODE MA3130WA-TX	
D404	8-719-421-59	DIODE MA3130WA-TX	
D405	8-719-109-89	DIODE RD5.6ESB2	
D406	8-719-109-97	DIODE RD6.8ESB2	
D407	8-719-109-97	DIODE RD6.8ESB2	
D408	8-719-929-15	DIODE HZS9.1NB2	
D409	8-719-421-59	DIODE MA3130WA-TX	
D410	8-719-421-59	DIODE MA3130WA-TX	
D411	8-719-421-59	DIODE MA3130WA-TX	
D414	8-719-923-84	DIODE MTZJ-T-77-13B	
D416	8-719-421-59	DIODE MA3130WA-TX	
D418	8-719-929-15	DIODE HZS9.1NB2	
D419	8-719-929-15	DIODE HZS9.1NB2	
D420	8-719-109-97	DIODE RD6.8ESB2	
D421	8-719-421-59	DIODE MA3130WA-TX	
D422	8-719-923-84	DIODE MTZJ-T-77-13B	
D423	8-719-109-97	DIODE RD6.8ESB2	
D424	8-719-929-15	DIODE HZS9.1NB2	
D427	8-719-109-97	DIODE RD6.8ESB2	
D430	8-719-929-15	DIODE HZS9.1NB2	
D501	8-719-302-43	DIODE EL1Z	
D502	8-719-924-13	DIODE MTZJ-T-77-22B	
D511	8-719-028-72	DIODE RGP02-17EL-6433	
D512	8-719-302-43	DIODE EL1Z	
D513	8-719-979-85	DIODE EGP20G	
D514	8-719-979-85	DIODE EGP20G	
D534	8-719-302-43	DIODE EL1Z	
D535	8-719-908-03	DIODE GP08D	
D536	8-719-945-80	DIODE ERC06-15S	
D538	8-719-908-03	DIODE GP08D	
D539	8-719-312-10	DIODE RU4AM-T3	
D541	1-535-303-00	LEAD, JUMPER (5.0MM)	
D571	8-719-911-19	DIODE 1SS119-25	
D601	8-719-510-53	DIODE D4SB60L	
D602	8-719-046-74	DIODE AU-01Z-V1	
D603	8-719-046-74	DIODE AU-01Z-V1	
D605	8-719-312-10	DIODE RU4AM-T3	
D608	8-719-067-88	DIODE RG1CLF-B1	

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

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REF. NO.	PART.NO	DESCRIPTION	REMARK
D610	8-719-067-78	DIODE RN3Z-LF014-302	
D613	8-719-911-19	DIODE 1SS119-25	
D619	8-719-043-76	DIODE AK04V0	
D620	8-719-046-74	DIODE AU-01Z-V1	
D621	8-719-068-00	DIODE ERC04-06SE	
D626	8-719-068-00	DIODE ERC04-06SE	
D627	8-719-063-73	DIODE D1NL20U-TR	
D629	8-719-073-23	DIODE ST02D-200TA	
D630	8-719-110-67	DIODE RD27ESB2	
D631	8-719-921-63	DIODE MTZJ-7.5B	
D632	8-719-032-12	DIODE D1NS6	
D633	8-719-109-89	DIODE RD5.6ESB2	
D634	8-719-067-78	DIODE RN3Z-LF014-302	
D654	8-719-302-43	DIODE EL1Z	
		< FERRITE BEAD >	
FB601	1-412-911-11	FERRITE 0UH	
FB602	1-412-911-11	FERRITE 0UH	
FB605	1-410-397-21	FERRITE 1.1UH	
FB608	1-412-911-11	FERRITE 0UH	
FB609	1-410-396-41	FERRITE 0.45UH	
FB610	1-410-397-21	FERRITE 1.1UH	
FB611	1-410-397-21	FERRITE 1.1UH	
		< IC >	
IC001	8-759-598-33	IC SAA5564PS	
IC003	8-759-336-46	IC PST574D-T	
IC004	8-759-527-76	IC M24C08-MN6T	
IC201	8-759-442-74	IC TDA7495	
IC301	8-752-091-76	IC CXA2140S	
IC401	8-759-064-91	IC NJM2233BL	
IC501	8-759-192-71	IC STV9379	
IC531	8-759-450-95	IC LM393N	
IC603	8-749-920-61	IC SE-135N	
IC604	8-759-572-80	IC L7805CV/LS0	
IC605	8-759-574-79	IC L7809CV/LS0	
IC606	8-749-016-20	IC STR-F6654-LF1357	
IC607	8-759-591-02	IC L78L33ABZ	
IC608	8-759-925-54	IC LM2940CT-5.0	
IC609	8-759-468-89	IC TOP209Y	
		< SOCKET >	
J401	*1-766-296-31	CONNECTOR, DUAL SCART	
J404	1-784-632-11	JACK, PIN 2P	

REF. NO.	PART.NO	DESCRIPTION	REMARK
		< COIL >	
L102	1-414-182-11	INDUCTOR 6.8UH	
L103	1-408-603-21	INDUCTOR 10UH	
L104	1-408-603-21	INDUCTOR 10UH	
L105	1-408-603-41	INDUCTOR 10UH	
L106	1-414-187-11	INDUCTOR 47UH	
L110	1-408-611-31	INDUCTOR 47UH	
L111	1-408-611-31	INDUCTOR 47UH	
L118	1-216-295-91	SHORT 0	
L201	1-414-177-11	INDUCTOR 1UH	
L202	1-414-177-11	INDUCTOR 1UH	
L203	1-406-979-11	INDUCTOR 220UH	
L301	1-216-295-91	SHORT 0	
L302	1-414-187-11	INDUCTOR 47UH	
L303	1-414-186-31	INDUCTOR 33UH	
L401	1-414-187-11	INDUCTOR 47UH	
L402	1-408-611-31	INDUCTOR 47UH	
L405	1-412-002-31	INDUCTOR CHIP 4.7UH	
L406	1-412-002-31	INDUCTOR CHIP 4.7UH	
L407	1-412-002-31	INDUCTOR CHIP 4.7UH	
L408	1-412-002-31	INDUCTOR CHIP 4.7UH	
L434	1-414-181-11	INDUCTOR 4.7UH	
L435	1-414-181-11	INDUCTOR 4.7UH	
L447	1-410-993-42	INDUCTOR CHIP 1UH	
L501	1-414-187-11	INDUCTOR 47UH	
L502	1-412-529-11	INDUCTOR 22UH	
L503	1-412-521-31	INDUCTOR 4.7UH	
L504	1-535-303-00	LEAD, JUMPER (5.0MM)	
L532	1-412-553-11	INDUCTOR 3.3MMH	
L533	1-406-989-21	INDUCTOR 10MMH	
L535	1-459-111-00	INDUCTOR 10MMH	
L571	1-412-533-21	INDUCTOR 47UH	
L602	1-535-143-61	LEAD, JUMPER (5.0MM)	
		< PHOTO COUPLER >	
PH601	£ 8-749-016-21	IC TCET1103G	
		< IC LINK >	
PS627	£ 1-532-727-11	LINK, IC 0.25A (ICP-N5)	
		< TRANSISTOR >	
Q001	1-801-806-11	TRANSISTOR DTC144EKA	
Q010	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q011	1-801-806-11	TRANSISTOR DTC144EKA	
Q012	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q013	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

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REF. NO.	PART.NO	DESCRIPTION	REMARK
Q016	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q017	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q018	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q019	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q020	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q021	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q022	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q101	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q111	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q112	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q201	8-729-920-75	TRANSISTOR 2SC2412K	
Q202	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q328	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q329	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q405	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q417	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q418	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q501	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q532	8-729-038-83	TRANSISTOR 2SK2251-01-F19	
Q533	8-729-049-08	TRANSISTOR BU2515DX-127	
Q535	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q571	8-729-105-08	TRANSISTOR 2SA1330-06	
Q574	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q575	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q576	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q601	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
		< RESISTOR >	
JR124	1-216-295-91	SHORT 0	
JR125	1-216-295-91	SHORT 0	
JR132	1-216-295-91	SHORT 0	
R001	1-216-025-91	RES,CHIP 100 5%	1/10W
R002	1-216-025-91	RES,CHIP 100 5%	1/10W
R003	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R004	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R005	1-216-214-00	RES,CHIP 4.7K 5%	1/8W
R009	1-216-025-91	RES,CHIP 100 5%	1/10W
R010	1-216-025-91	RES,CHIP 100 5%	1/10W
R011	1-216-025-91	RES,CHIP 100 5%	1/10W
R012	1-247-807-31	CARBON 100 5%	1/4W
R013	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R014	1-216-057-00	RES,CHIP 2.2K 5%	1/10W
R015	1-216-045-00	RES,CHIP 680 5%	1/10W
R016	1-216-055-00	RES,CHIP 1.8K 5%	1/10W
R017	1-249-429-11	CARBON 10K 5%	1/4W
R018	1-216-065-91	RES,CHIP 4.7K 5%	1/10W

REF. NO.	PART.NO	DESCRIPTION	REMARK
R019	1-216-295-91	SHORT 0	
R020	1-216-049-91	RES,CHIP 1K 5%	1/10W
R021	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R022	1-216-049-91	RES,CHIP 1K 5%	1/10W
R023	1-216-049-91	RES,CHIP 1K 5%	1/10W
R024	1-216-073-00	RES,CHIP 10K 5%	1/10W
R025	1-216-073-00	RES,CHIP 10K 5%	1/10W
R026	1-216-073-00	RES,CHIP 10K 5%	1/10W
R027	1-216-083-00	RES,CHIP 27K 5%	1/10W
R028	1-216-049-91	RES,CHIP 1K 5%	1/10W
R029	1-216-073-00	RES,CHIP 10K 5%	1/10W
R030	1-216-073-00	RES,CHIP 10K 5%	1/10W
R031	1-216-073-00	RES,CHIP 10K 5%	1/10W
R032	1-216-089-91	RES,CHIP 47K 5%	1/10W
R033	1-216-093-91	RES,CHIP 68K 5%	1/10W
R034	1-216-049-91	RES,CHIP 1K 5%	1/10W
R035	1-216-198-91	RES,CHIP 1K 5%	1/8W
R036	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R037	1-216-081-00	RES,CHIP 22K 5%	1/10W
R038	1-216-222-00	RES,CHIP 10K 5%	1/8W
R039	1-216-214-00	RES,CHIP 4.7K 5%	1/8W
R040	1-216-295-91	SHORT 0	
R050	1-216-049-91	RES,CHIP 1K 5%	1/10W
R051	1-216-174-00	RES,CHIP 100 5%	1/8W
R052	1-216-295-91	SHORT 0	
R053	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R054	1-216-097-91	RES,CHIP 100K 5%	1/10W
R060	1-216-025-91	RES,CHIP 100 5%	1/10W
R061	1-216-025-91	RES,CHIP 100 5%	1/10W
R062	1-216-182-00	RES,CHIP 220 5%	1/8W
R063	1-216-089-91	RES,CHIP 47K 5%	1/10W
R064	1-216-089-91	RES,CHIP 47K 5%	1/10W
R065	1-216-025-91	RES,CHIP 100 5%	1/10W
R066	1-216-057-00	RES,CHIP 2.2K 5%	1/10W
R067	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R069	1-216-041-00	RES,CHIP 470 5%	1/10W
R071	1-216-200-11	RES,CHIP 1.2K 5%	1/8W
R075	1-216-214-00	RES,CHIP 4.7K 5%	1/8W
R077	1-216-082-00	RES,CHIP 24K 5%	1/10W
R082	1-216-017-91	RES,CHIP 47 5%	1/10W
R083	1-216-174-00	RES,CHIP 100 5%	1/8W
R084	1-216-166-00	RES,CHIP 47 5%	1/8W
R085	1-216-174-00	RES,CHIP 100 5%	1/8W
R086	1-216-166-00	RES,CHIP 47 5%	1/8W
R087	1-216-025-91	RES,CHIP 100 5%	1/10W
R088	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R089	1-216-081-00	RES,CHIP 22K 5%	1/10W

REF. NO.	PART.NO	DESCRIPTION			REMARK
R090	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R091	1-216-081-00	RES,CHIP	22K	5%	1/10W
R092	1-216-073-00	RES,CHIP	10K	5%	1/10W
R094	1-216-025-91	RES,CHIP	100	5%	1/10W
R095	1-216-025-91	RES,CHIP	100	5%	1/10W
R096	1-247-807-31	CARBON	100	5%	1/4W
R097	1-247-807-31	CARBON	100	5%	1/4W
R098	1-216-097-91	RES,CHIP	100K	5%	1/10W
R099	1-216-246-00	RES,CHIP	100K	5%	1/8W
R101	1-216-049-91	RES,CHIP	1K	5%	1/10W
R103	1-216-041-00	RES,CHIP	470	5%	1/10W
R105	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R106	1-215-900-11	METAL OXIDE	22K	5%	2W F
R120	1-216-037-00	RES,CHIP	330	5%	1/10W
R121	1-216-025-91	RES,CHIP	100	5%	1/10W
R122	1-216-025-91	RES,CHIP	100	5%	1/10W
R125	1-249-417-11	CARBON	1K	5%	1/4W
R126	1-216-081-00	RES,CHIP	22K	5%	1/10W
R130	1-216-085-91	RES,CHIP	33K	5%	1/10W
R134	1-216-075-00	RES,CHIP	12K	5%	1/10W
R144	1-216-222-00	RES,CHIP	10K	5%	1/8W
R145	1-216-212-00	RES,CHIP	3.9K	5%	1/8W
R146	1-216-105-91	RES,CHIP	220K	5%	1/10W
R151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R153	1-216-180-00	RES,CHIP	180	5%	1/8W
R154	1-216-238-91	RES,CHIP	47K	5%	1/8W
R155	1-216-079-00	RES,CHIP	18K	5%	1/10W
R202	1-216-113-91	RES,CHIP	470K	5%	1/10W
R203	1-216-081-91	RES,CHIP	22K	5%	1/10W
R204	1-247-863-91	CARBON	22K	5%	1/4W
R206	1-216-085-00	RES,CHIP	33K	5%	1/10W
R208	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R209	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R211	1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R213	1-216-093-91	RES,CHIP	68K	5%	1/10W
R301	1-216-025-91	RES,CHIP	100	5%	1/10W
R302	1-216-081-00	RES,CHIP	22K	5%	1/10W
R303	1-216-073-00	RES,CHIP	10K	5%	1/10W
R304	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R305	1-412-002-31	INDUCTOR CHIP	4.7UH		
R306	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R307	1-216-041-00	RES,CHIP	470	5%	1/10W
R308	1-216-049-91	RES,CHIP	1K	5%	1/10W
R309	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R310	1-216-022-00	RES,CHIP	75	5%	1/10W
R312	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R313	1-216-025-91	RES,CHIP	100	5%	1/10W
R314	1-216-025-91	RES,CHIP	100	5%	1/10W
R315	1-216-075-00	RES,CHIP	12K	5%	1/10W
R316	1-216-025-91	RES,CHIP	100	5%	1/10W
R317	1-216-097-91	RES,CHIP	100K	5%	1/10W
R318	1-216-025-91	RES,CHIP	100	5%	1/10W
R319	1-216-025-91	RES,CHIP	100	5%	1/10W
R320	1-216-025-91	RES,CHIP	100	5%	1/10W
R321	1-216-025-91	RES,CHIP	100	5%	1/10W
R322	1-216-047-91	RES,CHIP	820	5%	1/10W
R323	1-216-025-91	RES,CHIP	100	5%	1/10W
R324	1-412-002-31	INDUCTOR CHIP	4.7UH		
R325	1-412-002-31	INDUCTOR CHIP	4.7UH		
R327	1-216-295-91	SHORT	0		
R328	1-216-049-91	RES,CHIP	1K	5%	1/10W
R329	1-216-031-00	RES,CHIP	180	5%	1/10W
R330	1-216-089-91	RES,CHIP	47K	5%	1/10W
R331	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R332	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R333	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R334	1-216-025-91	RES,CHIP	100	5%	1/10W
R335	1-216-025-91	RES,CHIP	100	5%	1/10W
R336	1-216-077-00	RES,CHIP	15K	5%	1/10W
R338	1-216-049-91	RES,CHIP	1K	5%	1/10W
R339	1-216-081-00	RES,CHIP	22K	5%	1/10W
R340	1-535-143-11	LEAD, JUMPER (10.MM)			
R341	1-535-143-11	LEAD, JUMPER (10.MM)			
R342	1-216-103-00	RES,CHIP	180K	5%	1/10W
R401	1-216-113-00	RES,CHIP	470K	5%	1/10W
R402	1-216-295-91	SHORT	0		
R403	1-216-041-00	RES,CHIP	470	5%	1/10W
R404	1-216-113-00	RES,CHIP	470K	5%	1/10W
R406	1-216-113-00	RES,CHIP	470K	5%	1/10W
R407	1-216-295-91	SHORT	0		
R408	1-216-022-00	RES,CHIP	75	5%	1/10W
R409	1-216-174-00	RES,CHIP	100	5%	1/8W
R410	1-216-174-00	RES,CHIP	100	5%	1/8W
R411	1-216-022-00	RES,CHIP	75	5%	1/10W
R412	1-216-174-00	RES,CHIP	100	5%	1/8W
R413	1-216-295-91	SHORT	0		
R414	1-216-022-00	RES,CHIP	75	5%	1/10W
R415	1-216-022-00	RES,CHIP	75	5%	1/10W
R417	1-249-403-11	CARBON	68	5%	1/4W
R418	1-249-413-11	CARBON	470	5%	1/4W
R419	1-216-022-00	RES,CHIP	75	5%	1/10W
R420	1-216-041-00	RES,CHIP	470	5%	1/10W
R421	1-216-113-00	RES,CHIP	470K	5%	1/10W
R425	1-216-073-00	RES,CHIP	10K	5%	1/10W

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The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION				REMARK
R427	1-216-113-00	RES,CHIP	470K	5%	1/10W	
R429	1-216-041-00	RES,CHIP	470	5%	1/10W	
R430	1-216-113-00	RES,CHIP	470K	5%	1/10W	
R432	1-216-113-00	RES,CHIP	470K	5%	1/10W	
R435	1-216-022-00	RES,CHIP	75	5%	1/10W	
R437	1-216-022-00	RES,CHIP	75	5%	1/10W	
R439	1-216-041-00	RES,CHIP	470	5%	1/10W	
R440	1-216-113-00	RES,CHIP	470K	5%	1/10W	
R442	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R445	1-216-171-00	RES,CHIP	75	5%	1/8W	
R450	1-216-041-00	RES,CHIP	470	5%	1/10W	
R454	1-216-041-00	RES,CHIP	470	5%	1/10W	
R457	1-216-174-00	RES,CHIP	100	5%	1/8W	
R459	1-247-807-31	CARBON	100	5%	1/4W	
R460	1-249-403-11	CARBON	68	5%	1/4W	
R461	1-216-033-00	RES,CHIP	220	5%	1/10W	
R501	1-216-081-00	RES,CHIP	22K	5%	1/10W	
R502	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R503	1-215-888-00	METAL OXIDE	220	5%	2W	F
R504	1-249-385-11	CARBON	2.2	5%	1/4W	F
R505	1-216-667-91	METAL CHIP	4.7K	0.50%	1/10W	
R506	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R507	1-216-349-00	METAL OXIDE	1	5%	1W	F
R508	1-216-667-91	METAL CHIP	4.7K	0.50%	1/10W	
R509	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R510	1-216-081-00	RES,CHIP	22K	5%	1/10W	
R511	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R512	1-249-382-11	CARBON	1.2	5%	1/4W	F
R513	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R514	1-249-377-11	CARBON	0.47	5%	1/4W	F
R515	1-249-377-11	CARBON	0.47	5%	1/4W	F
R516	1-249-493-11	CARBON	56K	5%	1/2W	
R518	1-216-059-00	RES,CHIP	2.7K	5%	1/10W	
R520	1-215-884-11	METAL OXIDE	47	5%	2W	F
R522	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R523	1-216-121-91	RES,CHIP	1M	5%	1/10W	
R524	1-216-083-00	RES,CHIP	27K	5%	1/10W	
R525	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R526	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R527	1-216-077-00	RES,CHIP	15K	5%	1/10W	
R528	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R529	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R530	1-216-085-00	RES,CHIP	33K	5%	1/10W	
R531	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R532	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R533	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R539	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R540	1-215-861-00	METAL OXIDE	47	5%	1W	F
R542	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R543	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R546	1-249-401-11	CARBON	47	5%	1/4W	F
R547	1-535-303-00	LEAD, JUMPER (5.0MM)				
R549	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W	F
R552	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	
R553	1-249-381-11	CARBON	1	5%	1/4W	F
R555	1-216-059-00	RES,CHIP	2.7K	5%	1/10W	
R571	1-249-417-11	CARBON	1K	5%	1/4W	F
R572	1-216-369-00	METAL OXIDE	1	5%	2W	F
R574	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R575	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R581	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R582	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R583	1-216-081-00	RES,CHIP	22K	5%	1/10W	
R589	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R590	1-216-230-00	RES,CHIP	22K	5%	1/8W	
R591	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R593	1-249-439-11	CARBON	68K	5%	1/4W	
R594	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R595	1-249-377-11	CARBON	0.47	5%	1/4W	F
R602	£ 1-202-961-11	CEMENTED	1.8	5%	10W	
R603	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R604	1-249-421-11	CARBON	2.2K	5%	1/4W	
R607	£ 1-202-961-11	CEMENTED	1.8	5%	10W	
R608	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R611	1-249-415-11	CARBON	680	5%	1/4W	
R616	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R617	1-249-405-11	CARBON	100	5%	1/4W	F
R619	1-216-214-00	RES,CHIP	4.7K	5%	1/8W	
R620	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	
R622	1-249-401-11	CARBON	47	5%	1/4W	
R628	1-247-791-91	CARBON	22	5%	1/4W	
R632	£ 1-240-030-91	METAL	4.7M	5%	1/2W	
R634	£ 1-240-030-91	METAL	4.7M	5%	1/2W	
R651	£ 1-220-926-11	FUSIBLE	0.47	10%	1/2W	F
R652	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R653	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R654	1-249-389-11	CARBON	4.7	5%	1/4W	F
R658	1-215-929-11	METAL OXIDE	100K	5%	3W	F
R659	1-216-383-11	METAL OXIDE	0.33	5%	3W	F
R660	1-216-383-11	METAL OXIDE	0.33	5%	3W	F
R661	1-247-843-11	CARBON	3.3K	5%	1/4W	
R662	1-215-929-11	METAL OXIDE	100K	5%	3W	F
R665	1-215-902-51	METAL OXIDE	47K	5%	2W	F

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

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REF. NO.		PART.NO	DESCRIPTION	REMARK
R666		1-535-143-71	LEAD, JUMPER (7.5MM)	
R667		1-215-900-51	METAL OXIDE 22K 5% 2W F	
			< RELAY >	
RY601	£	1-755-266-11	RELAY, AC POWER	
			< SWITCH >	
SW532		1-572-707-11	SWITCH, LEVER	
			< TRANSFORMER >	
T511	£	1-453-308-11	TRANSFORMER ASSY, FLYBACK NX-4521//U2B4	
T531		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	
T532		1-426-981-11	TRANSFORMER, FERRITE (PMT)	
T601	£	1-427-962-11	TRANSFORMER, LINE FILTER	
T602		1-431-732-21	TRANSFORMER, CONVERTER (SRT)	
T603	£	1-433-933-11	TRANSFORMER, CONVERTER (SRT)	
			< CRYSTAL >	
X001		1-578-774-11	VIBRATOR, CRYSTAL	
X302		1-567-505-11	OSCILLATOR, CRYSTAL	
X303		1-567-504-11	OSCILLATOR, CRYSTAL	

A Board Variant Parts
KV-25FX20A/25FX20D/25FX20E/
KV-29FX20A/29FX20D/29FX20E

			< CAPACITOR >	
C111		1-216-296-91	SHORT 0	
C123		1-102-108-91	CERAMIC CHIP 150PF 10% 50V	
C124		1-104-664-11	ELECT 47MF 20% 25V	
C125		1-101-880-91	CERAMIC CHIP 47PF 5% 50V	
C132		1-102-525-91	CERAMIC CHIP 68PF 5% 50V	
C536		1-117-813-11	FILM 0.75MF 5% 250V	(KV-25FX20A/25FX20D/25FX20E)
		1-115-521-11	FILM 0.82MF 5% 250V	(KV-29FX20A/29FX20D/29FX20E)
C546		1-130-895-00	FILM 0.056MF 5% 400V	(KV-25FX20A/25FX20D/25FX20E)
		1-130-118-00	FILM 0.051MF 5% 400V	(KV-29FX20A/29FX20D/29FX20E)
C553		1-137-417-11	MYLAR 0.0047MF 10% 200V	
C555		1-128-935-11	CERAMIC CHIP 19000PF 3% 1200V	(KV-29FX20A/29FX20D/29FX20E)
C572		1-128-526-11	ELECT 100MF 20% 16V	
C582		1-163-267-91	CERAMIC CHIP 470PF 5% 50V	(KV-25FX20A/25FX20D/25FX20E)
		1-163-259-91	CERAMIC CHIP 220PF 5% 50V	(KV-29FX20A/29FX20D/29FX20E)
C606		1-125-318-00	ELECT(BLOCK) 220MF 20% 400V	
C638		1-107-670-11	ELECT 10MF 20% 400V	
			< FILTER >	
SWF101		1-767-874-11	FILTER, SURFACE WAVE	
			< IC >	
IC101		8-759-466-49	IC TDA9817/V1	
			< COIL >	
L105		1-408-603-31	INDUCTOR 10UH	
			< TRANSISTOR >	
Q108		8-729-120-08	TRANSISTOR 2SC1623-L5L6	(KV-25FX20A/25FX20D/25FX20E)
		8-729-901-81	TRANSISTOR 2SC2412K	(KV-29FX20A/29FX20D/29FX20E)
Q160		8-729-031-81	TRANSISTOR 2PD601AR	(KV-29FX20A/29FX20D/29FX20E)
			< RESISTOR >	
JR113		1-216-295-91	SHORT 0	
R114		1-216-295-91	SHORT 0	
R133		1-216-295-91	SHORT 0	
R137		1-216-035-00	RES,CHIP 270 5% 1/10W	
R138		1-216-097-91	RES,CHIP 100K 5% 1/10W	
R139		1-216-093-91	RES,CHIP 68K 5% 1/10W	
R140		1-216-035-00	RES,CHIP 270 5% 1/10W	
R141		1-216-043-91	RES,CHIP 560 5% 1/10W	
R143		1-216-031-91	RES,CHIP 180 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
		1-247-809-91	RES,CHIP 120 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R159		1-247-843-91	CARBON 3.3K 5% 1/4W	
R160		1-216-049-91	RES,CHIP 1K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R161		1-216-021-91	RES,CHIP 68 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R326		1-216-121-91	RES,CHIP 1M 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
		1-216-113-00	RES,CHIP 470K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R517		1-247-859-91	CARBON 15K 5% 1/4W	(KV-25FX20A/25FX20D/25FX20E)
		1-249-428-11	CARBON 8.2K 5% 1/4W	(KV-29FX20A/29FX20D/29FX20E)

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The components identified by shading and marked ⚠ are critical for safety
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REF. NO.	PART.NO	DESCRIPTION	REMARK
R505	1-126-667-11	METAL CHIP 4.7K 0.50% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
R508	1-126-667-11	METAL CHIP 4.7K 0.50% 1/10W	(KV-25FX20/25FX20D/25FX20E)
R521	1-216-117-00	RES,CHIP 680K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-121-91	RES,CHIP 1M 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R534	1-216-113-00	RES,CHIP 470K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-105-91	RES,CHIP 220K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R535	1-216-109-00	RES,CHIP 330K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-101-00	RES,CHIP 150K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R541	1-216-093-91	RES,CHIP 68K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-097-91	RES,CHIP 100K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R548	1-212-849-61	FUSIBLE 4.7 5% 1/4W	(KV-25FX20A/25FX20D/25FX20E)
	1-202-973-61	FUSIBLE 3.3 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R573	1-216-109-91	RES,CHIP 330K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-097-91	RES,CHIP 100K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
R588	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	(KV-25FX20A/25FX20D/25FX20E)
	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	(KV-29FX20A/29FX20D/29FX20E)
		< TRANSFORMER >	
T533	1-433-905-11	TRANSFORMER, HORIZONTAL LINEAR	(KV-25FX20A/25FX20D/25FX20E)
	1-433-906-11	TRANSFORMER, HORIZONTAL LINEAR	(KV-29FX20A/29FX20D/29FX20E)
		< THERMISTOR >	
THP601 £	1-810-961-11	THERMISTOR, POSITIVE	
		< TUNER >	
TU101	8-598-432-00	TUNER (BTP-AC411)	

A Board Variant Parts KV-25FX20B/29FX20B

REF. NO.	PART.NO	DESCRIPTION	REMARK
		< CAPACITOR >	
C100	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C111	1-163-059-00	CERAMIC CHIP 0.01MF	50V
C121	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C133	1-162-638-11	CERAMIC CHIP 1MF	16V
C140	1-104-664-11	ELECT 47MF 20%	16V
C536	1-117-813-11	FILM 0.75MF 5%	250V (KV-25FX20B)
	1-115-521-11	FILM 0.82MF 5%	250V (KV-29FX20B)
C546	1-130-895-00	FILM 0.056MF 5%	400V (KV-25FX20B)
	1-130-118-00	FILM 0.051MF 5%	400V (KV-29FX20B)
C553	1-137-417-11	MYLAR 0.0047MF 10%	200V
C555	1-128-935-11	CERAMIC CHIP 19000PF 3%	1200V (KV-29FX20B)
C572	1-128-526-11	ELECT 100MF 20%	16V
C582	1-163-133-00	CERAMIC CHIP 470PF 5%	50V (KV-25FX20B)
	1-163-259-91	CERAMIC CHIP 220PF 5%	50V (KV-29FX20B)
C606	1-125-318-00	ELECT(BLOCK) 220MF 20%	400V
C638	1-107-670-11	ELECT 10MF 20%	400V
		< FILTER >	
CF105	1-760-154-11	TRAP, CERAMIC	
SWF101	1-579-273-11	FILTER, SURFACE WAVE	
SWF103	1-767-083-11	FILTER, SURFACE WAVE	
		< DIODE >	
D102	8-719-050-59	DIODE BA592-GEG	
D104	8-719-914-43	DIODE DAN202K	
		< IC >	
IC101	8-759-466-47	IC TDA9818/V1	
		< COIL >	
L108	1-410-985-42	INDUCTOR CHIP 0.22UH	
L109	1-410-789-11	INDUCTOR 0.47UH	
L117	1-412-002-42	INDUCTOR CHIP 4.7UH	
		< TRANSISTOR >	
Q102	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q104	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q107	8-729-022-54	TRANSISTOR 2SC3779C,D-AA	
Q109	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q110	1-801-806-11	TRANSISTOR DTC144EKA-T146	

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REF. NO.	PART.NO	DESCRIPTION				REMARK
		< RESISTOR >				
R109	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	
R110	1-216-200-11	RES,CHIP	1.2K	5%	1/8W	
R111	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	
R112	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	
R113	1-216-027-00	RES,CHIP	120	5%	1/10W	
R114	1-216-190-00	RES,CHIP	470	5%	1/8W	
R123	1-216-037-91	RES,CHIP	330	5%	1/10W	
R127	1-216-031-00	RES,CHIP	180	5%	1/10W	
R128	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R129	1-216-063-91	RES,CHIP	3.9K	5%	1/10W	
R137	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R138	1-216-087-91	RES,CHIP	39K	5%	1/10W	
R139	1-216-075-00	RES,CHIP	12K	5%	1/10W	
R141	1-216-295-91	SHORT	0			
R142	1-216-043-91	RES,CHIP	560	5%	1/10W	
R147	1-216-017-91	RES,CHIP	47	5%	1/10W	
R148	1-216-174-00	RES,CHIP	100	5%	1/8W	
R149	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R152	1-216-025-91	RES,CHIP	100	5%	1/10W	
R156	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R157	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R158	1-216-025-91	RES,CHIP	100	5%	1/10W	
R159	1-247-835-91	CARBON	1.5K	5%	1/10W	(KV-25FX20B)
	1-249-419-11	CARBON	1.5K	5%	1/4W	(KV-29FX20B)
R160	1-216-295-91	SHORT	0			(KV-29FX20B)
R161	1-216-295-91	SHORT	0			(KV-29FX20B)
R326	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-25FX20B)
	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-29FX20B)
R505	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20B)
R508	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20B)
R517	1-247-859-91	CARBON	15K	5%	1/4W	(KV-25FX20B)
	1-249-428-11	CARBON	8.2K	5%	1/4W	(KV-29FX20B)
R521	1-216-117-00	RES,CHIP	680K	5%	1/10W	(KV-25FX20B)
	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-29FX20B)
R534	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-25FX20B)
	1-216-105-91	RES,CHIP	220K	5%	1/10W	(KV-29FX20B)
R535	1-216-109-00	RES,CHIP	330K	5%	1/10W	(KV-25FX20B)
	1-216-101-91	RES,CHIP	150K	5%	1/10W	(KV-29FX20B)
R541	1-216-093-91	RES,CHIP	68K	5%	1/10W	(KV-25FX20B)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20B)
R548	1-202-973-61	FUSIBLE	3.3	5%	1/10W	(KV-29FX20B)
R573	1-216-109-91	RES,CHIP	330K	5%	1/10W	(KV-25FX20B)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20B)
R588	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	(KV-25FX20B)
	1-216-065-11	RES,CHIP	4.7K	5%	1/10W	(KV-29FX20B)

REF. NO.	PART.NO	DESCRIPTION	REMARK
	< VARIABLE RESISTOR >		
RV101	1-241-765-11	RES, ADJ, CARBON 22K	
	< TRANSFORMER >		
T533	1-433-905-11	TRANSFORMER, HORIZONTAL LINEAR	(KV-25FX20B)
	1-433-906-11	TRANSFORMER, HORIZONTAL LINEAR	(KV-29FX20B)
	< THERMISTOR >		
THP601 £	1-810-961-11	THERMISTOR, POSITIVE	
	< TUNER >		
TU101	1-693-418-11	TUNER (TELE9-001A)	

A Board Variant Parts KV-25FX20K/29FX20K

	< CAPACITOR >				
C111	1-216-296-91	SHORT	0		
C123	1-102-106-91	CERAMIC CHIP	100PF	10%	50V
C124	1-104-664-11	ELECT	47MF	20%	25V
C125	1-102-106-91	CERAMIC CHIP	100PF	10%	50V
C536	1-117-813-11	FILM	0.75MF	5%	250V (KV-25FX20K)
	1-115-521-11	FILM	0.82MF	5%	250V (KV-29FX20K)
C546	1-130-895-00	FILM	0.056MF	5%	400V (KV-25FX20K)
	1-130-118-00	FILM	0.051MF	5%	400V (KV-29FX20K)
C553	1-137-417-11	MYLAR	0.0047MF	10%	200V
C555	1-128-935-11	CERAMIC CHIP	19000PF	3%	1200V (KV-29FX20K)
C572	1-128-526-11	ELECT	100MF	20%	16V
C582	1-163-267-91	CERAMIC CHIP	470PF	5%	50V (KV-25FX20K)
	1-163-259-91	CERAMIC CHIP	220PF	5%	50V (KV-29FX20K)
C606	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V
C638	1-107-670-11	ELECT	10MF	20%	400V
	< FILTER >				
SWF101	1-579-273-11	FILTER, SURFACE WAVE			
	< IC >				
IC101	8-759-466-49	IC TDA9817/V1			

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The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION				REMARK
		< COIL >				
L105	1-408-603-31	INDUCTOR	10UH			
		< TRANSISTOR >				
Q108	8-729-120-08	TRANSISTOR 2SC1623-L5L6				(KV-25FX20K)
	8-729-901-81	TRANSISTOR 2SC2412K				(KV-29FX20K)
Q160	8-729-031-00	TRANSISTOR 2PD601AR				(KV-29FX20K)
		< RESISTOR >				
JR113	1-216-295-91	SHORT	0			
R114	1-216-295-91	SHORT	0			
R133	1-216-295-91	SHORT	0			
R137	1-216-035-00	RES,CHIP	270	5%	1/10W	
R138	1-216-087-91	RES,CHIP	100K	5%	1/10W	
R139	1-216-093-91	RES,CHIP	68K	5%	1/10W	
R140	1-216-035-00	RES,CHIP	270	5%	1/10W	
R141	1-216-043-91	RES,CHIP	560	5%	1/10W	
R143	1-247-815-91	RES,CHIP	220	5%	1/10W	
R159	1-247-843-91	CARBON	3.3K	5%	1/4W	
R160	1-216-049-91	RES,CHIP	1K	5%	1/10W	(KV-29FX20K)
R161	1-216-021-91	RES,CHIP	68	5%	1/10W	(KV-29FX20K)
R326	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-25FX20K)
	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-29FX20K)
R505	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20K)
R508	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20K)
R517	1-247-859-91	CARBON	15K	5%	1/4W	(KV-25FX20K)
	1-249-428-11	CARBON	8.2K	5%	1/4W	(KV-29FX20K)
R521	1-216-117-00	RES,CHIP	680K	5%	1/10W	(KV-25FX20K)
	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-29FX20K)
R534	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-25FX20K)
	1-216-105-91	RES,CHIP	220K	5%	1/10W	(KV-29FX20K)
R535	1-216-109-00	RES,CHIP	330K	5%	1/10W	(KV-25FX20K)
	1-216-101-00	RES,CHIP	150K	5%	1/10W	(KV-29FX20K)
R541	1-216-093-91	RES,CHIP	68K	5%	1/10W	(KV-25FX20K)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20K)
R548	1-212-849-61	FUSIBLE	4.7	5%	1/4W	(KV-25FX20K)
	1-202-973-61	FUSIBLE	3.3	5%	1/4W	(KV-29FX20K)
R573	1-216-109-91	RES,CHIP	330K	5%	1/10W	(KV-25FX20K)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20K)
R588	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	(KV-25FX20K)
	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	(KV-29FX20K)
		< TRANSFORMER >				
T533	1-433-905-11	TRANSFORMER, HORIZONTAL LINEAR				(KV-25FX20K)
	1-433-906-11	TRANSFORMER, HORIZONTAL LINEAR				(KV-29FX20K)
		< THERMISTOR >				
THP601 £	1-810-961-11	THERMISTOR, POSITIVE				
		< TUNER >				
TU101	8-598-432-00	TUNER (BTP-AC411)				

A Board Variant Parts KV-25FX20R/29FX20R

REF. NO.	PART.NO	DESCRIPTION				REMARK
		< CAPACITOR >				
C111	1-216-296-91	SHORT	0			
C123	1-102-106-91	CERAMIC CHIP	100PF	10%	50V	
C124	1-104-664-11	ELECT	47MF	20%	25V	
C125	1-102-106-91	CERAMIC CHIP	100PF	10%	50V	
C132	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(KV-29FX20R)
C536	1-117-813-11	FILM	0.75MF	5%	250V	(KV-25FX20R)
	1-115-521-11	FILM	0.82MF	5%	250V	(KV-29FX20R)
C546	1-130-895-00	FILM	0.056MF	5%	400V	(KV-25FX20R)
	1-130-118-00	FILM	0.051MF	5%	400V	(KV-29FX20R)
C553	1-137-417-11	MYLAR	0.0047MF	10%	200V	
C555	1-128-935-11	CERAMIC CHIP	19000PF	3%	1200V	(KV-29FX20R)
C572	1-128-526-11	ELECT	100MF	20%	16V	
C582	1-163-267-91	CERAMIC CHIP	470PF	5%	50V	(KV-25FX20R)
	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	(KV-29FX20R)
C606	1-117-751-11	ELECT(BLOCK)	220MF	20%	450V	
C638	1-107-679-41	ELECT	10MF	20%	450V	
		< FILTER >				
SWF101	1-579-273-11	FILTER, SURFACE WAVE				
		< IC >				
IC101	8-759-466-49	IC TDA9817/V1				
		< COIL >				
L105	1-408-603-31	INDUCTOR	10UH			

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

A

REF. NO.	PART.NO	DESCRIPTION				REMARK
		< TRANSISTOR >				
Q108	8-729-120-08	TRANSISTOR 2SC1623-L5L6				(KV-25FX20R)
	8-725-901-81	TRANSISTOR 2SC2412K				(KV-29FX20R)
Q160	8-729-031-00	TRANSISTOR 2PD601AR				(KV-29FX20R)
		< RESISTOR >				
JR113	1-216-295-91	SHORT	0			
R114	1-216-295-91	SHORT	0			
R133	1-216-295-91	SHORT	0			
R137	1-216-035-00	RES,CHIP	270	5%	1/10W	
R138	1-216-087-91	RES,CHIP	100K	5%	1/10W	
R139	1-216-093-91	RES,CHIP	68K	5%	1/10W	
R140	1-216-035-00	RES,CHIP	270	5%	1/10W	
R141	1-216-043-91	RES,CHIP	560	5%	1/10W	
R143	1-247-815-91	RES,CHIP	220	5%	1/10W	
R159	1-247-843-91	CARBON	3.3K	5%	1/4W	
R160	1-216-049-91	RES,CHIP	1K	5%	1/10W	(KV-29FX20R)
R161	1-216-021-91	RES,CHIP	68	5%	1/10W	(KV-29FX20R)
R326	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-25FX20R)
	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-29FX20R)
R505	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20R)
R508	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	(KV-25FX20R)
R517	1-247-859-91	CARBON	15K	5%	1/4W	(KV-25FX20R)
	1-249-428-11	CARBON	8.2K	5%	1/4W	(KV-29FX20R)
R521	1-216-117-00	RES,CHIP	680K	5%	1/10W	(KV-25FX20R)
	1-216-121-91	RES,CHIP	1M	5%	1/10W	(KV-29FX20R)
R534	1-216-113-00	RES,CHIP	470K	5%	1/10W	(KV-25FX20R)
	1-216-105-91	RES,CHIP	220K	5%	1/10W	(KV-29FX20R)
R535	1-216-109-00	RES,CHIP	330K	5%	1/10W	(KV-25FX20R)
	1-216-101-00	RES,CHIP	150K	5%	1/10W	(KV-29FX20R)
R541	1-216-093-91	RES,CHIP	68K	5%	1/10W	(KV-25FX20R)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20R)
R548	1-212-849-61	FUSIBLE	4.7	5%	1/4W	(KV-25FX20R)
	1-202-973-61	FUSIBLE	3.3	5%	1/4W	(KV-29FX20R)
R573	1-216-109-91	RES,CHIP	330K	5%	1/10W	(KV-25FX20R)
	1-216-097-91	RES,CHIP	100K	5%	1/10W	(KV-29FX20R)
R588	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	(KV-25FX20R)
	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	(KV-29FX20R)
		< TRANSFORMER >				
T533	1-433-905-11	TRANSFORMER, HORIZONTAL LINEAR				(KV-25FX20R)
	1-433-906-11	TRANSFORMER, HORIZONTAL LINEAR				(KV-29FX20R)
		< THERMISTOR >				
THP601 £	1-810-961-11	THERMISTOR, POSITIVE				
		< TUNER >				
TU101	8-598-432-00	TUNER (BTP-AC411)				

A Board Variant Parts KV-29FX20U

		< CAPACITOR >				
C111	1-216-296-91	SHORT	0			
C536	1-115-521-11	FILM	0.82MF	5%	250V	
C546	1-130-118-00	FILM	0.051MF	5%	400V	
C553	1-106-359-00	MYLAR	0.0047MF	10%	100V	
C555	1-128-935-11	CERAMIC CHIP	19000PF	3%	1200V	
C572	1-104-665-11	ELECT	100MF	20%	10V	
C582	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	
C606	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V	
C638	1-107-670-11	ELECT	10MF	20%	400V	
		< FILTER >				
SWF101	1-579-273-11	FILTER, SURFACE WAVE				
		< IC >				
IC101	8-759-466-49	IC TDA9817/V1				
		< TRANSISTOR >				
Q160	8-729-031-00	TRANSISTOR 2PD601AR				
		< RESISTORS >				
JR113	1-216-295-91	SHORT	0			
R114	1-216-295-91	SHORT	0			
R133	1-216-295-91	SHORT	0			
R139	1-216-093-91	RES,CHIP	68K	5%	1/10W	
R141	1-216-043-91	RES,CHIP	560	5%	1/10W	
R143	1-216-031-00	RES,CHIP	180	5%	1/10W	
R160	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R161	1-216-021-91	RES,CHIP	68	5%	1/10W	
R326	1-216-113-00	RES,CHIP	470K	5%	1/10W	
R517	1-249-428-11	CARBON	8.2K	5%	1/4W	
R521	1-216-121-91	RES,CHIP	1M	5%	1/10W	
R534	1-216-105-91	RES,CHIP	220K	5%	1/10W	
R535	1-216-101-00	RES,CHIP	150K	5%	1/10W	
R541	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R548	1-202-973-61	FUSIBLE	3.3	5%	1/4W	
R573	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R588	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	

A C

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK
		< TRANSFORMER >	
T533	1-433-906-11	TRANSFORMER, HORIZONTAL LINEAR	
		< THERMISTOR >	
THP601 £	1-808-059-31	THERMISTOR, POSITIVE	
		< TUNER >	
TU101	8-598-464-10	TUNER (BTP-AU611)	

*A-1638-127-A C Board, Complete

REF. NO.	PART.NO	DESCRIPTION	REMARK
		< CAPACITOR >	
C702	1-102-109-00	CERAMIC 180PF 10% 50V	
C703	1-102-109-00	CERAMIC 180PF 10% 50V	
C704	1-101-004-00	CERAMIC 0.01MF 50V	
C705	1-101-004-00	CERAMIC 0.01MF 50V	
C706	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C707	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV	
C709	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C710	1-136-189-00	FILM 0.1MF 10% 250V	
C712	1-102-109-00	CERAMIC 180PF 10% 50V	
C713	1-101-004-00	CERAMIC 0.01MF 50V	
C714	1-104-665-11	ELECT 100MF 20% 16V	
C717	1-102-114-00	CERAMIC 470PF 10% 50V	
C718	1-102-114-00	CERAMIC 470PF 10% 50V	
C719	1-102-114-00	CERAMIC 470PF 10% 50V	
		< CONNECTOR >	
CN701	1-784-633-11	PIN, CONNECTOR 4P	
CN702	1-695-915-11	TAB (CONTACT)	
CN703	*1-564-509-11	PLUG, CONNECTOR 6P	
		< DIODE >	
D702	8-719-991-33	DIODE 1SS133T-77	
D703	8-719-991-33	DIODE 1SS133T-77	
D704	8-719-991-33	DIODE 1SS133T-77	
D705	8-719-991-33	DIODE 1SS133T-77	
D706	8-719-991-33	DIODE 1SS133T-77	
D707	8-719-991-33	DIODE 1SS133T-77	
D708	8-719-991-33	DIODE 1SS133T-77	
D709	8-719-991-33	DIODE 1SS133T-77	
D710	8-719-991-33	DIODE 1SS133T-77	
D711	8-719-991-33	DIODE 1SS133T-77	
D712	8-719-991-33	DIODE 1SS133T-77	
D714	8-719-991-33	DIODE 1SS133T-77	
D715	8-719-991-33	DIODE 1SS133T-77	
D716	8-719-991-33	DIODE 1SS133T-77	
D717	8-719-991-33	DIODE 1SS133T-77	
D718	8-719-991-33	DIODE 1SS133T-77	
D719	8-719-991-33	DIODE 1SS133T-77	
D721	8-719-991-33	DIODE 1SS133T-77	
D722	8-719-991-33	DIODE 1SS133T-77	
		< CRT SOCKET >	
J701 £	1-251-595-11	SOCKET, CRT	
		< COIL >	
L703	1-412-529-11	INDUCTOR 22UH	
L704	1-414-183-41	INDUCTOR 10UH	
		< TRANSISTOR >	
Q701	8-729-046-28	TRANSISTOR BF420-126	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-046-28	TRANSISTOR BF420-126	
Q704	8-729-200-17	TRANSISTOR 2SA1091-O	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q706	8-729-046-28	TRANSISTOR BF420-126	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q709	8-729-046-28	TRANSISTOR BF420-126	
Q710	8-729-200-17	TRANSISTOR 2SA1091-O	
Q711	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q712	8-729-046-28	TRANSISTOR BF420-126	
Q713	8-729-046-28	TRANSISTOR BF420-126	
Q714	8-729-026-39	TRANSISTOR 2SA933AS-QT	
Q715	8-729-200-17	TRANSISTOR 2SA1091-O	
Q716	8-729-200-17	TRANSISTOR 2SA1091-O	
Q717	8-729-200-17	TRANSISTOR 2SA1091-O	
		< RESISTOR >	
R701	1-247-895-91	CARBON 470K 5% 1/4W	
R702	1-216-464-11	METAL OXIDE 18K 5% 2W	F
R703	1-249-405-11	CARBON 100 5% 1/4W	F
R704	1-535-143-21	LEAD, JUMPER (12.5MM)	
R705	1-249-931-11	CARBON 2.2K 5% 1/4W	F
R706	1-247-815-91	CARBON 220 5% 1/4W	
R707	1-249-412-11	CARBON 390 5% 1/4W	
R708	1-249-401-11	CARBON 47 5% 1/4W	
R709	1-202-844-00	SOLID 330K 10% 1/2W	
R710	1-247-895-91	CARBON 470K 5% 1/4W	
R712	1-249-931-11	CARBON 2.2K 5% 1/4W	F

REF. NO.	PART.NO	DESCRIPTION				REMARK
R713	1-247-903-00	CARBON	1M	5%	1/4W	
R714	1-216-464-11	METAL OXIDE	18K	5%	2W	F
R715	1-249-405-11	CARBON	100	5%	1/4W	F
R716	1-247-815-91	CARBON	220	5%	1/4W	
R717	1-249-412-11	CARBON	390	5%	1/4W	
R718	1-202-814-11	SOLID	33K	10%	1/2W	
R719	1-249-401-11	CARBON	47	5%	1/4W	
R721	1-249-405-11	CARBON	100	5%	1/4W	F
R722	1-202-848-00	SOLID	680K	10%	1/2W	
R724	1-260-131-11	CARBON	470K	5%	1/2W	
R725	1-249-425-11	CARBON	4.7K	5%	1/4W	
R726	1-249-931-11	CARBON	2.2K	5%	1/4W	F
R727	1-247-815-91	CARBON	220	5%	1/4W	
R729	1-249-412-11	CARBON	390	5%	1/4W	
R730	1-249-401-11	CARBON	47	5%	1/4W	
R733	1-249-437-11	CARBON	47K	5%	1/4W	
R734	1-247-807-31	CARBON	100	5%	1/4W	
R736	1-216-464-11	METAL OXIDE	18K	5%	2W	F
R741	1-202-549-00	SOLID	100	20%	1/2W	
R746	1-249-417-11	CARBON	1K	5%	1/4W	
R750	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-417-11	CARBON	1K	5%	1/4W	

< VARIABLE RESISTOR >

RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M
RV702	1-241-656-21	RES, ADJ, METAL FILM 110M

***A-1674-141-A VM Board, Complete (KV-25FX20)**
***A-1674-140-A VM Board, Complete (KV-29FX20)**

VM Board Common Parts

< CAPACITOR >

C1701	1-104-665-11	ELECT	100MF	20%	16V
C1704	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1705	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C1706	1-163-249-91	CERAMIC CHIP	68PF	0.5PF	50V
C1707	1-126-964-11	ELECT	10MF	20%	50V
C1708	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1709	1-126-964-11	ELECT	10MF	20%	50V
C1710	1-107-927-11	ELECT	3.3MF	20%	100V
C1711	1-107-927-11	ELECT	3.3MF	20%	100V
C1712	1-136-153-00	FILM	0.01MF	5%	50V
C1713	1-104-664-11	ELECT	47MF	20%	25V
C1715	1-136-165-00	FILM	0.1MF	5%	50V
C1716	1-107-932-11	ELECT	47MF	20%	100V
C1717	1-104-664-11	ELECT	47MF	20%	25V
C1803	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C1804	1-126-964-11	ELECT	10MF	20%	50V
C1805	1-137-366-11	FILM	0.0022MF	5%	50V
C1844	1-129-716-00	FILM	0.015MF	5%	630V
C1845	1-129-725-00	FILM	0.082MF	5%	400V
C1848	1-136-347-11	FILM	0.0047MF	5%	630V
C1901	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1902	1-137-374-11	FILM	0.047MF	5%	50V
C1903	1-126-964-11	ELECT	10MF	20%	50V
C1904	1-137-366-11	FILM	0.0022MF	5%	50V
C1905	1-137-374-11	FILM	0.047MF	5%	50V
C1906	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1911	1-109-954-11	ELECT	0.47MF	20%	160V
C1912	1-102-030-00	CERAMIC	330PF	10%	500V
C1913	1-129-992-00	FILM	0.0024MF	5%	630V
C1914	1-102-244-00	CERAMIC	220PF	10%	500V
C1915	1-136-205-11	FILM	0.022MF	10%	250V
C1916	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1917	1-102-228-00	CERAMIC	470PF	10%	500V
C1951	1-126-964-11	ELECT	10MF	20%	50V
C1952	1-126-964-11	ELECT	10MF	20%	50V
C1953	1-136-159-00	FILM	0.033MF	5%	50V
C1954	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1957	1-126-964-11	ELECT	10MF	20%	50V
C1958	1-136-169-00	FILM	0.22MF	5%	50V
C1959	1-136-169-00	FILM	0.22MF	5%	50V

< CONNECTOR >

CN1702	*1-564-507-11	PLUG, CONNECTOR 4P
CN1705	*1-564-511-11	PLUG, CONNECTOR 8P
CN1718	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P
CN1801	*1-564-506-11	PLUG, CONNECTOR 3P
CN1809	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P

< DIODE >

D1703	8-719-991-33	DIODE 1SS133T-77
D1704	1-535-303-00	LEAD, JUMPER (5.0MM)
D1705	1-535-303-00	LEAD, JUMPER (5.0MM)
D1706	8-719-991-33	DIODE 1SS133T-77
D1707	8-719-991-33	DIODE 1SS133T-77
D1708	8-719-055-76	DIODE IN4148
D1709	8-719-055-76	DIODE IN4148
D1710	8-719-982-03	DIODE MTZJ-3.6A
D1711	8-719-982-03	DIODE MTZJ-3.6A
D1801	8-719-110-17	DIODE RD10ESB2
D1802	8-719-110-17	DIODE RD10ESB2
D1803	8-719-110-17	DIODE RD10ESB2
D1840	8-719-302-43	DIODE EL1Z
D1901	8-719-991-33	DIODE 1SS133T-77

VM

REF. NO.	PART.NO	DESCRIPTION	REMARK
D1902	8-719-991-33	DIODE 1SS133T-77	
D1903	8-719-991-33	DIODE 1SS133T-77	
D1904	8-719-991-33	DIODE 1SS133T-77	
D1905	8-719-110-41	DIODE RD15ESB2	
D1906	8-719-970-87	DIODE ERA38-06	
D1907	8-719-970-87	DIODE ERA38-06	
D1908	8-719-300-33	DIODE RU-3AM	
D1909	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC1801	8-759-603-37	IC M5216P	
IC1901	8-759-450-95	IC LM393N	
IC1902	8-759-008-70	IC LM358N	
		< COIL >	
L1701	1-414-183-41	INDUCTOR 10UH	
L1702	1-414-183-41	INDUCTOR 10UH	
L1704	1-414-185-41	INDUCTOR 22UH	
L1843	1-406-989-21	INDUCTOR 10MMH	
L1901	1-406-677-11	INDUCTOR 10MMH	
L1959	1-406-679-11	INDUCTOR 22MMH	
		< TRANSISTOR >	
Q1701	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1702	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1703	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1704	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1705	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1706	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1707	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1708	8-729-026-39	TRANSISTOR 2SA933AS-QT	
Q1709	8-729-049-09	TRANSISTOR BC327-25	
Q1710	8-729-049-10	TRANSISTOR BC337-25	
Q1711	8-729-049-30	TRANSISTOR BD830	
Q1712	8-729-049-29	TRANSISTOR BD829	
Q1840	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1841	8-729-039-68	TRANSISTOR IRF620	
Q1901	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1902	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1903	8-729-043-95	TRANSISTOR 2SC3840(3)	
Q1906	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1907	8-729-140-97	TRANSISTOR 2SB734-34	
		< RESISTOR >	
R1701	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1702	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1703	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	
R1704	1-216-051-00	RES,CHIP 1.2K 5% 1/10W	
R1705	1-216-031-00	RES,CHIP 180 5% 1/10W	
R1706	1-216-031-00	RES,CHIP 180 5% 1/10W	
R1707	1-216-043-91	RES,CHIP 560 5% 1/10W	
R1708	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1709	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1710	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R1711	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R1712	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1713	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R1714	1-216-019-00	RES,CHIP 56 5% 1/10W	
R1715	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1716	1-216-031-00	RES,CHIP 180 5% 1/10W	
R1717	1-216-051-00	RES,CHIP 1.2K 5% 1/10W	
R1718	1-260-091-11	CARBON 220 5% 1/2W	
R1719	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	
R1720	1-216-246-00	RES,CHIP 100K 5% 1/8W	
R1721	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	
R1722	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1723	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R1724	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R1725	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1726	1-247-863-91	CARBON 22K 5% 1/4W	
R1727	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1728	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1729	1-247-775-91	CARBON 4.7 5% 1/4W	
R1730	1-247-775-91	CARBON 4.7 5% 1/4W	
R1731	1-215-895-11	METAL OXIDE 3.3K 5% 2W F	
R1732	1-215-867-00	METAL OXIDE 470 5% 1W F	
R1805	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1806	1-216-117-00	RES,CHIP 680K 5% 1/10W	
R1807	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1808	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1809	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1810	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1842	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1846	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R1901	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R1903	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1904	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1905	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R1906	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1907	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R1908	1-216-033-00	RES,CHIP 220 5% 1/10W	
R1909	1-215-489-00	METAL 680K 1% 1/4W	
R1910	1-216-295-91	SHORT 0	
R1911	1-216-073-00	RES,CHIP 10K 5% 1/10W	

REF. NO.	PART.NO	DESCRIPTION				REMARK
R1912	1-216-121-91	RES,CHIP	1M	5%	1/10W	
R1913	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R1914	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R1915	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	
R1916	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R1917	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R1918	1-215-922-11	METAL OXIDE	6.8K	5%	3W	F
R1921	1-215-922-11	METAL OXIDE	6.8K	5%	3W	F
R1922	1-215-919-11	METAL OXIDE	2.2K	5%	3W	F
R1923	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R1924	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R1925	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R1953	1-216-093-91	RES,CHIP	68K	5%	1/10W	
R1954	1-216-109-00	RES,CHIP	330K	5%	1/10W	
R1955	1-216-105-91	RES,CHIP	220K	5%	1/10W	
R1956	1-216-123-11	RES,CHIP	1.2M	5%	1/10W	
R1957	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R1958	1-216-025-91	RES,CHIP	100	5%	1/10W	
R1959	1-216-063-91	RES,CHIP	3.9K	5%	1/10W	
R1960	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R1961	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R1962	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R1964	1-216-025-91	RES,CHIP	100	5%	1/10W	
R1965	1-216-041-00	RES,CHIP	470	5%	1/10W	
R1966	1-215-886-11	METAL OXIDE	100	5%	2W	F
R1968	1-215-886-11	METAL OXIDE	100	5%	2W	F
R1969	1-216-485-11	METAL OXIDE	5.6K	5%	3W	F
		< TRANSFORMER >				
T1901	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS				

VM Board Variant Parts List KV-25FX20

R1847	1-216-474-11	METAL OXIDE	82	5%	3W	F
R1848	1-215-910-11	METAL OXIDE	68	5%	3W	F
R1931	1-216-689-11	RES,CHIP	39K	5%	1/10W	
R1967	1-216-485-11	METAL OXIDE	5.6K	5%	3W	F

VM Board Variant Parts List KV-29FX20

R1847	1-215-911-21	METAL OXIDE	100	5%	3W	F
R1848	1-216-475-21	METAL OXIDE	120	5%	3W	F
R1931	1-216-089-71	RES,CHIP	47K	5%	1/10W	
R1967	1-216-488-51	METAL OXIDE	18K	5%	3W	F

REF. NO.	PART.NO	DESCRIPTION				REMARK

*A-1646-184-A, H Board Complete

		< CAPACITOR >				
C900	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C901	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C902	1-137-372-11	FILM	0.022MF	5%	50V	
C903	1-137-372-11	FILM	0.022MF	5%	50V	
C904	1-104-665-11	ELECT	100MF	20%	25V	
C905	1-126-964-11	ELECT	10MF	20%	50V	
C906	1-126-960-11	ELECT	1MF	20%	50V	
C907	1-126-960-11	ELECT	1MF	20%	50V	
C911	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C912	1-102-074-00	CERAMIC	0.001MF	10%	50V	
		< CONNECTOR >				
CN900	1-779-947-11	TERMINAL BLOCK, S				
CN906	*1-564-511-11	PLUG, CONNECTOR 8P				
CN907	*1-568-882-51	PIN, CONNECTOR 7P				
CN908	*1-564-509-11	PLUG, CONNECTOR 6P				
		< DIODE >				
D901	8-719-030-11	DIODE SLA-570KT3F				
	4-203-258-01	HOLDER, LED (D901)				
D902	8-719-929-15	DIODE HZS9.1NB2				
D903	8-719-929-15	DIODE HZS9.1NB2				
D904	8-719-109-97	DIODE RD6.8ESB2				
D905	8-719-109-97	DIODE RD6.8ESB2				
D906	8-719-923-60	DIODE MTZJ-T-77-9.1A				
D907	8-719-923-60	DIODE MTZJ-T-77-9.1A				
D908	8-719-923-60	DIODE MTZJ-T-77-9.1A				
		< IC >				
IC900	8-742-014-11	HYB IC SBX1981-51				
		< JACK SOCKET >				
J900	1-750-264-11	JACK				
		< COIL >				
L900	1-412-531-31	INDUCTOR	33UH			
L901	1-412-531-31	INDUCTOR	33UH			
L902	1-408-603-31	INDUCTOR	10UH			
L903	1-408-603-31	INDUCTOR	10UH			
		< RESISTOR >				
R900	1-247-807-31	CARBON	100	5%	1/4W	
R901	1-249-424-11	CARBON	3.9K	5%	1/4W	

REF. NO.	PART.NO	DESCRIPTION			REMARK
R902	1-247-863-91	CARBON	22K	5%	1/4W
R903	1-247-701-11	CARBON	120	5%	1/4W
R904	1-247-701-11	CARBON	120	5%	1/4W
R908	1-249-401-11	CARBON	47	5%	1/4W
R909	1-247-895-91	CARBON	470K	5%	1/4W
R910	1-247-895-91	CARBON	470K	5%	1/4W
R911	1-535-303-00	LEAD, JUMPER (5.0MM)			
R912	1-249-417-11	CARBON	1K	5%	1/4W
R913	1-249-427-11	CARBON	6.8K	5%	1/4W
R914	1-249-429-11	CARBON	10K	5%	1/4W
R915	1-247-701-11	CARBON	120	5%	1/4W
R916	1-247-701-11	CARBON	120	5%	1/4W
R917	1-247-807-31	CARBON	100	5%	1/4W
R918	1-247-807-31	CARBON	100	5%	1/4W
		< SWITCH >			
S900	1-692-979-21	SWITCH, TACTILE			
S901	1-692-979-21	SWITCH, TACTILE			
S902	1-692-979-21	SWITCH, TACTILE			

***A-1649-023-A K Board, Complete**

	7-682-148-01	SCREW +P 3X8			
		< CAPACITOR >			
C281	1-126-960-91	ELECT	1MF	20%	50V
C282	1-126-943-31	ELECT	2200MF	20%	25V
C284	1-128-550-11	ELECT	2200MF	20%	50V
C285	1-126-943-31	ELECT	2200MF	20%	25V
C287	1-137-194-81	FILM	0.47MF	5%	50V
C288	1-136-165-00	FILM	0.1MF	5%	50V
C289	1-104-666-91	ELECT	220MF	20%	25V
C290	1-136-161-00	FILM	0.047MF	5%	50V
		< CONNECTOR >			
CN225	*1-564-508-11	PLUG, CONNECTOR 5P			
CN282	*1-568-878-51	PIN, CONNECTOR 3P			
		< DIODE >			
D201	8-719-911-19	DIODE 1SS119-25			
		< IC >			
IC281	8-759-988-94	IC TDA2050			
		< COIL >			
L281	1-406-973-41	INDUCTOR	22UH		

REF. NO.	PART.NO	DESCRIPTION			REMARK
		< TRANSISTOR >			
Q204	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		< RESISTOR >			
R201	1-247-865-91	CARBON	27K	5%	1/4W
R202	1-247-865-91	CARBON	27K	5%	1/4W
R203	1-247-895-91	CARBON	470K	5%	1/4W
R204	1-247-859-91	CARBON	15K	5%	1/4W
R205	1-247-859-91	CARBON	15K	5%	1/4W
R284	1-247-863-91	CARBON	22K	5%	1/4W
R285	1-249-438-11	CARBON	56K	5%	1/4W
R287	1-247-831-91	CARBON	1K	5%	1/4W
R288	1-216-353-00	METAL OXIDE	2.2	5%	1W F
R290	1-247-843-91	CARBON	3.3K	5%	1/4W
R292	1-247-843-91	CARBON	3.3K	5%	1/4W
R293	1-247-863-91	CARBON	22K	5%	1/4W
R294	1-247-829-91	CARBON	820	5%	1/4

***A-1654-041-A S1 Board, Complete (KV-25FX20A/25FX20D/25FX20R/ KV-29FX20A/29FX20D/29FX20R)**

***A-1654-039-A S1 Board, Complete (KV-25FX20B/29FX20B)**

***A-1654-040-A S1 Board, Complete (KV-25FX20E/25FX20K/ KV-29FX20E/29FX20K/29FX20U)**

S1 Board Common Parts

		< CAPACITOR >			
C1103	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1106	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1107	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1108	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1109	1-104-664-11	ELECT	47MF	20%	25V
C1110	1-126-960-11	ELECT	1MF	20%	50V
C1111	1-126-960-11	ELECT	1MF	20%	50V
C1113	1-104-664-11	ELECT	47MF	20%	25V
C1115	1-104-664-11	ELECT	47MF	20%	25V
C1116	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1117	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1118	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1119	1-126-960-11	ELECT	1MF	20%	50V
C1120	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1122	1-104-664-11	ELECT	47MF	20%	25V
C1123	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1124	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1127	1-126-960-11	ELECT	1MF	20%	50V
C1128	1-126-960-11	ELECT	1MF	20%	50V

REF. NO.	PART.NO	DESCRIPTION			REMARK
C1129	1-126-960-11	ELECT	1MF	20%	50V
C1130	1-126-964-11	ELECT	10MF	20%	50V
C1132	1-104-664-11	ELECT	47MF	20%	25V
C1133	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1134	1-126-964-11	ELECT	10MF	20%	50V
C1136	1-126-964-11	ELECT	10MF	20%	50V
C1139	1-126-964-11	ELECT	10MF	20%	50V
C1143	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1144	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1145	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1146	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1147	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1148	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1149	1-126-960-11	ELECT	1MF	20%	50V
C1150	1-126-960-11	ELECT	1MF	20%	50V
C1151	1-104-664-11	ELECT	47MF	20%	25V
C1152	1-163-038-91	CERAMIC CHIP	0.1MF		25V
		< CONNECTOR >			
CN1101*	1-766-954-11	CONNECTOR, BOARD TO BOARD 20P			
		< FERRITE BEAD >			
FB1101	1-410-396-41	FERRITE	0.45UH		
FB1102	1-410-396-41	FERRITE	0.45UH		
FB1104	1-410-396-41	FERRITE	0.45UH		
FB1110	1-412-002-31	INDUCTOR CHIP	4.7UH		
FB1111	1-412-002-31	INDUCTOR CHIP	4.7UH		
FB1112	1-412-002-31	INDUCTOR CHIP	4.7UH		
		< IC >			
IC1102	8-759-100-96	IC UPC4558G2			
IC1103	8-759-394-57	IC PST593C-MMP-4P			
		< COIL >			
L1114	1-410-671-31	INDUCTOR	47UH		
L1115	1-408-599-31	INDUCTOR	4.7UH		
L1116	1-408-599-31	INDUCTOR	4.7UH		
		< RESISTOR >			
R1101	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1102	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1105	1-216-035-00	RES,CHIP	270	5%	1/10W
R1110	1-216-025-91	RES,CHIP	100	5%	1/10W
R1111	1-216-025-91	RES,CHIP	100	5%	1/10W
R1113	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1121	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1122	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1123	1-216-218-00	RES,CHIP	6.8K	5%	1/8W
R1124	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1125	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R1126	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1155	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1156	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1174	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1175	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1176	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1177	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1178	1-216-073-00	RES,CHIP	10K	5%	1/10W
		< CRYSTAL >			
X1101	1-767-813-21	VIBRATOR, CRYSTAL			

S1 Board Variant Parts
KV-25FX20A/25FX20D/25FX20R/
KV-29FX20A/29FX20D/29FX20R

		< IC >			
IC1101	8-759-574-73	IC TDA9875A			
		< RESISTOR >			
R1165	1-216-295-91	SHORT	0		

S1 Board Variant Parts KV-25FX20B/29FX20B

		< CAPACITOR >			
C1131	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1135	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1137	1-104-664-11	ELECT	47MF	20%	25V
C1138	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< FILTER >			
CF1101	1-409-327-00	TRAP, CERAMIC (6.5MHZ)			
		< FERRITE BEAD >			
FB1113	1-412-002-31	INDUCTOR CHIP	4.7UH		
		< IC >			
IC1101	8-759-574-73	IC TDA9875A			
		< COIL >			
L1113	1-408-600-31	INDUCTOR	5.6UH		

S1

The components identified by shading and marked ⚠ are critical for safety
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK
L1117	1-410-671-31	INDUCTOR 47UH	
		< TRANSISTOR >	
Q1112	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1113	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1114	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1115	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< RESISTOR >	
R1108	1-216-077-00	RES,CHIP 15K 5% 1/10W	
R1152	1-216-035-00	RES,CHIP 270 5% 1/10W	
R1153	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1154	1-216-067-00	RES,CHIP 5.6K 5% 1/10W	
R1160	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R1161	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1162	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	
R1163	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R1164	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1167	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1168	1-216-033-00	RES,CHIP 220 5% 1/10W	
R1169	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1170	1-216-001-00	RES,CHIP 10 5% 1/10W	
R1171	1-216-045-00	RES,CHIP 680 5% 1/10W	
R1172	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1173	1-216-049-91	RES,CHIP 1K 5% 1/10W	

S1 Board Variant Parts
KV-25FX20E/25FX20K
KV-29FX20E/29FX20K/29FX20U

REF. NO.	PART.NO	DESCRIPTION	REMARK
		< IC >	
IC1101	8-759-574-73	IC TDA9875A	
		< RESISTOR >	
R1164	1-216-073-00	RES,CHIP 10K 5% 1/10W	

MISCELLANEOUS

REF. NO.	PART.NO	DESCRIPTION	REMARK
£	1-419-142-11	COIL, DEGAUSING (25″)	
£	1-416-654-11	COIL, DEMAGNETIC (29″)	
	1-452-032-00	MAGNET, DISC; 10MM	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
£	8-453-011-11	NECK ASSY, NA299-M	
£	1-453-308-11	TRANSFORMER ASSY, FLYBACK (NX-4521//U2B4)	
	1-529-417-11	SPEAKER 8CM	
	1-529-408-11	LOUD SPEAKER 4.2x20CM	
£	1-251-317-31	CAP ASSY, HIGH-VOLTAGE	
£	1-762-087-11	SWITCH, PUSH (AC POWER)	
£	1-765-286-11	CORD, POWER (KV-25FX20/29FX20A/29FX20B/ KV-29FX20D/29FX20E/29FX20K/ KV-29FX20R)	
£	1-776-860-12	CORD POWER, FILTER UK (KV-29FX20U)	
	8-598-432-00	TUNER (BTP-AC411) (KV-25FX20A/25FX20D/25FX20E/25FX20K/25FX20R KV-29FX20A/29FX20D/29FX20E/29FX20K/29FX20R)	
	1-693-418-11	TUNER (TELE9-001A) (KV-25FX20B/29FX20B)	
	8-598-464-00	TUNER (BTP-AU611) (KV-29FX20U)	
£	8-733-250-05	PICTURE TUBE (A60LPN70X) (25″)	
£	8-735-053-05	PICTURE TUBE (M68LNH060X) (29″)	
£	1-451-475-11	DEFLECTION YOKE (Y25RSA) (KV-25FX20)	
£	8-451-494-21	DEFLECTION YOKE (Y29RSA-M2) (KV-29FX20)	

ACCESSORIES AND PACKAGING MATERIALS

REF. NO.	PART.NO	DESCRIPTION	REMARK
*	4-042-476-01	BAG, PROTECTION (25″)	
*	4-029-168-01	BAG, PROTECTION (29″)	
*	4-204-811-01	INDIVIDUAL CARTON (25″)	
*	4-204-784-01	INDIVIDUAL CARTON (29″)	
*	4-204-810-01	CUSHION (UPPER) (ASSY) (25″)	
*	4-204-780-01	CUSHION (UPPER) (ASSY) (29″)	
*	4-204-807-01	CUSHION (LOWER) (ASSY) (25″)	
*	4-204-783-01	CUSHION (LOWER) (ASSY) (29″)	
*	4-204-787-41	MANUAL INSTRUCTION (KV-25FX20A/29FX20A) (ITALIAN)	
*	4-204-787-51	MANUAL INSTRUCTION (KV-25FX20B/29FX20B) (FRENCH/ITALIAN/GERMAN/DUTCH)	
*	4-204-787-11	MANUAL INSTRUCTION (KV-25FX20D/29FX20D) (ENGLISH/GERMAN/GREEK/TURKISH)	
	4-204-787-71	MANUAL INSTRUCTION (KV-25FX20E/29FX20E) (SPANISH)	
	4-204-787-81	MANUAL INSTRUCTION (KV-25FX20E/29FX20E) (FINNISH/NORWEGIAN/HUNGARIAN/PORTUGUESE/ DANISH/SWEDISH)	
	4-204-787-91	MANUAL INSTRUCTION (KV-25FX20K/29FX20K) (ENGLISH/CZECH/POLISH/HUNGARIAN/SLOVAKIAN)	
	4-204-788-91	MANUAL INSTRUCTION (KV-25FX20R/29FX20R) (ENGLISH/RUSSIAN/BULGARIAN)	
	4-204-787-61	MANUAL INSTRUCTION (KV-29FX20U) (ENGLISH)	

REMOTE COMMANDER

REF. NO.	PART.NO	DESCRIPTION	REMARK
	1-418-476-11	REMOTE COMMANDER (RM-887)	

Sony Corporation
Sony UK
Service Promotions Dept.

English
99DP7174-1
Printed in U.K.
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9-974-981-01